

**THE IMPACT OF LEADERSHIP AND RELATIONAL QUALITY ON
PRODUCT INNOVATION PERFORMANCE IN THE GROCERY RETAIL ENVIRONMENT**

by

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DECLARATION: PLAGIARISM

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ABSTRACT

This research study investigated leadership, relationships and product innovation performance in a South African grocery retail milieu. The leadership aspect explored the degree to which leaders are transformative, followers employ self-leadership traits, and how this relates to product innovation performance. In terms of relationships, the study examined both internal team leader-follower relationship quality, and external team retailer-supplier relationship quality, and how both relate back to product innovation performance. Product innovation performance was measured according to commercial success in the form of end-consumer adoption and relevance. Achieving innovation performance is largely dependent on the knowledge workers responsible for developing the innovation. Therefore, ensuring the appropriate organisational conditions in order to increase the success rate of innovation remains a 21st-century challenge. The aim of this study was to gain insight into the contribution of leadership and relationships in enabling product innovation performance in a frenetic and predominantly transactional grocery retail environment.

The basic design of the study involved both quantitative and qualitative data inputs. A primary partial least squares structural equation analysis model was followed, with secondary co-variance based structural equation model utilised as a confirmation, thus ensuring the relationships between the key concepts were confirmed through significant reliability measures. The quantitative data set was gleaned from a predominantly internal team member cohort, with a supplementary component gleaned from a strategic supplier sample. The qualitative data involved 60 interviews, 19 with strategic supplier team members, 21 with internal team members and 20 with independent innovation experts. The internal team and external supplier team interviews were anchored along seven innovation clusters - thus presenting both the supplier and retailer view on the same relationship. The innovation expert data set provided valuable insights in terms of how the findings were a contribution beyond organisation-specific context.

It was found that transformational leaders play an essential role in supporting both internal and external team members. The cohesive role fulfilled by leaders that embodied transformational attributes: (1) inspired internal and external team members to perform in the absence of a fully functioning innovation ecosystem; (2) supported the navigation of product innovation projects from inception to completion despite the shortcomings in terms of structure, process and strategy; and (3) played a remedial role in neutralising the adverse effects of transactional leadership behaviours.

One of the new academic contributions included the valuable role of leadership and relationship investments towards strategic supplier partners in the product innovation journey. This study has

bolstered the case for greater supplier development in the quest to achieve product innovation performance. The findings of this study indicated that the cultivation of high-quality retailer-supplier exchange relationships is the greatest predictor of product innovation performance. These findings substantiate the need for organisations to apply greater support for suppliers in creating and communicating push innovation processes, providing knowledge exchange opportunities, co-managing risk, and sharing of innovation strategies. The adaptation of the retailer-supplier exchange measurement instrument as a reliable way to measure the relationship quality between retailers and their customers, is a new contribution, and could be promising for future research.

The overall value in supporting and promoting transformational leadership attributes will stand suppliers in good stead, especially when there are other organisational shortfalls. While leadership and relationships are able to remedy organisational shortcomings in order to achieve product innovation goals, this study has strengthened the business case for prioritising an optimised innovation ecosystem. The ideal innovation ecosystem involves a holistic innovation strategy as the blueprint to all internal and external role-players, organisational structures and processes to support the strategy, and a wholesome organisational culture that can balance transactional and transformational aspects.

Keywords: exchange quality, product innovation performance, leadership, relationships, transformational leadership, self-leadership, leader-member exchange, retailer-supplier exchange

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TABLE OF CONTENTS

Declaration: Plagiarism	ii
Abstract	iii
Acknowledgements	v
Declaration: Language Editing	vi
List of Figures	xv
List of Tables	xviii
List of Appendices	xxiii
Acronyms and Abbreviations	xxiv
CHAPTER 1: RESEARCH PROBLEM AND CONTEXT	1
1.1 Introduction	1
1.2 Objectives of the research	4
1.3 Definition of key concepts	4
1.3.1 Leadership	4
1.3.2 Relationships	5
1.3.3 Innovation	6
1.4 Summary and structure of the dissertation	7
CHAPTER 2: LITERATURE OVERVIEW	8
2.1 Innovation	8
2.1.1 Dimensions of innovation	9
2.1.2 Antecedents of innovation	13
2.1.2.1 Innovation leadership	15
2.1.2.2 Managing knowledge	20
2.1.2.3 Organisational culture for innovation	21
2.1.2.4 Processes for innovation performance	24
2.1.2.5 Cultivating innovativeness and perceived organisational innovativeness	29
2.1.2.6 Relationships	30
2.1.3 Grocery retail product innovation	32
2.1.3.1 Product innovation performance and grocery retail dynamics	34
2.1.3.2 Product innovation performance through collaboration	37
2.2 Leadership and innovation	41
2.3 Transformational leadership	43
2.3.1 Definition and development of transformational leadership	43

2.3.2	Dimensions of transformational leadership	43
2.3.2.1	High levels of charisma and providing an appropriate model	46
2.3.2.2	The ability to identify and articulate a compelling vision	47
2.3.2.3	Idealised influence, inspirational motivation and fostering the acceptance of group goals	47
2.3.2.4	High-performance expectations	48
2.3.2.5	Individualised consideration, support and recognition for accomplishments	48
2.3.2.6	Intellectual stimulation	49
2.3.3	Outcomes of transformational leadership	49
2.3.4	Transformational leadership and innovation	54
2.4	Self-leadership	58
2.4.1	Definition and development of self-leadership	58
2.4.2	Dimensions of self-leadership	59
2.4.3	Relevance and outcomes of self-leadership behaviour	62
2.4.4	Self-leadership and innovation	64
2.4.5	Self-leadership and transformational leadership	65
2.5	Leader-member exchange: internal relationships	66
2.5.1	Definition and development of leader-member exchange	66
2.5.2	Outcomes of leader-member exchange	69
2.5.3	Antecedents of leader-member exchange	71
2.5.4	Leader-member differentiation dynamics	75
2.5.5	Leader-member exchange and transformational leadership	78
2.6	Retailer-supplier exchange: external relationships	80
2.6.1	Formation dynamics of retailer-supplier relationships	81
2.6.1.1	Attraction	81
2.6.1.2	Strength of ties	82
2.6.1.3	Power and risk	85
2.6.2	Antecedents of retailer-supplier exchange	87
2.6.2.1	Trust	87
2.6.2.2	Leadership	91
2.6.3	Retailer-supplier exchange outcomes	93
2.6.3.1	Knowledge flows and open innovation	93
2.7	Summary	95
CHAPTER 3: RESEARCH PROBLEM AND OBJECTIVES		96
3.1	Research problem	96

3.2	Research aim	102
3.3	Research objectives	102
3.4	Research questions	102
3.5	Summary	103
CHAPTER 4: RESEARCH METHODOLOGY		104
4.1	Research design	104
4.2	Sample selection and description	106
4.2.1	Quantitative sample	106
4.2.2	Qualitative sample	109
4.3	Ethical considerations	111
4.4	Quantitative phase	113
4.4.1	Primary quantitative data collection, examination and measurement instruments	113
4.4.1.1	Transformational leader behaviour inventory	114
4.4.1.2	Self-leadership	117
4.4.1.3	Leader-member exchange	118
4.4.1.4	Retailer-supplier exchange	120
4.4.1.5	Perceived organisational innovativeness	121
4.4.1.6	Product innovation performance	122
4.4.2	Primary quantitative data analysis	124
4.4.2.1	Reflective measurement models: outer-model assessment	126
4.4.2.2	Structural equation model: inner-model assessment	129
4.5	Qualitative phase	129
4.5.1	Sample selection and description	131
4.5.2	Interview method	135
4.5.3	Interview schedule: formulation and administration	135
4.5.4	Primary qualitative data analysis and interpretation	137
4.5.5	Strategies to enhance qualitative data trustworthiness	142
4.6	Piloting	143
4.7	Summary	144
CHAPTER 5: QUANTITATIVE RESEARCH RESULTS AND FINDINGS		145
5.1	Sample description	145
5.1.1	Internal team respondents	145
5.1.2	External team respondents	148
5.2	Descriptive statistics	149

5.2.1	Transformational leadership inventory (TLI)	151
5.2.2	Abbreviated self-leadership questionnaire (ASLQ)	153
5.2.3	Leader-member exchange (LMX)	154
5.2.4	Retailer-supplier exchange (RSX)	154
5.2.5	Perceived organisational innovativeness questionnaire	157
5.2.6	Product innovation performance scale (PIP)	157
5.3	Conceptual model	159
5.4	Outer-model assessment	159
5.4.1	Transformational leadership inventory (TLI)	160
5.4.2	Abbreviated self-leadership Scale (ASLQ)	167
5.4.3	Leader-member exchange (LMX) and retailer-supplier exchange (RSX)	171
5.4.4	Perceived organisational innovativeness scale	176
5.4.5	Product innovation performance (PIP)	185
5.4.6	Reflective indicator loading summary	189
5.4.7	Composite reliability summary	191
5.4.8	Convergent validity summary	192
5.4.9	Discriminant validity summary	193
5.4.10	Fit indices summary	195
5.4.11	Construct correlation summary	196
5.5	Inner-model assessment	198
5.5.1	Multicollinearity	198
5.5.2	Coefficient of determination: measuring the value of R^2	200
5.5.3	Path coefficients	200
5.5.4	PLS-SEM and CB-SEM comparison	202
5.6	Quantitative analyses summary	204
5.7	Summary	209
CHAPTER 6: QUALITATIVE RESEARCH FINDINGS		210
6.1	Descriptive statistics	210
6.1.1	Internal team retailer sample description	210
6.1.2	External team supplier sample description	213
6.1.3	Innovation expert sample description	214
6.2	Retailer internal team member data analyses	215
6.2.1	Open and axial coding	215
6.2.2	Findings	220

6.2.3	Theme 1: Strategic supplier relationships have an impact on collaboration towards innovation performance	225
6.2.4	A symbiotic retailer-supplier relationship enables a successful innovation journey	226
6.2.4.1	Supplier investment in retailer relationship is effective in expediting innovation	227
6.2.4.2	When a formal system for push-innovation is lacking, suppliers cannot optimally support the innovation process	232
6.2.5	Theme 2: Fragmented relationships among team members, departments and intermediaries impair innovation	233
6.2.5.1	Silos and structural elements hamper collaboration	234
6.2.5.2	Differential departmental performance objectives cause discord and a lack of alignment regarding the innovation strategy	236
6.2.5.3	Unclear accountability structures result in confusion and complications	240
6.2.5.4	The conduct of buyers influences internal and external stakeholder relationships	242
6.2.6	Theme 3: Unaligned collaboration to achieve end-consumer relevance impairs innovation performance	244
6.2.6.1	The time horizon of innovation performance needs to balance the immediate and future innovation strategy	244
6.2.6.2	A divergence in the definition of innovation results in unaligned and unoptimised product innovation	245
6.2.6.3	A lack of pride in own brand leads to unoptimised product innovation performance	248
6.2.7	Theme 4: Varying styles of innovation leadership does not translate into a culture that prioritises innovation	249
6.2.7.1	An incoherent culture of collaboration and innovation affects morale and focus	249
6.2.7.2	Transformational leaders have a positive effect on their team members	252
6.2.7.3	Leaders with transactional leadership traits has an adverse effect on team members	254
6.2.8	Internal team participant summary of findings	258
6.3	External team member supplier data analyses and findings	260
6.3.1	Open and axial coding	260
6.3.2	Findings	264
6.3.3	Theme 1: Transformational leaders have a positive effect on suppliers	270
6.3.3.1	Transformational leaders inspire suppliers	271
6.3.3.2	Transformational leaders fast-track and smooth the way in favour for suppliers	272
6.3.3.3	Transformational leaders leave a positive legacy	274
6.3.4	Theme 2: The retailer-supplier relationship develops over time and contains asymmetries	274
6.3.4.1	Time and trust help cement the retailer-supplier relationship	274
6.3.4.2	The retailer-supplier relationship is affected by the balance of power	279

6.3.4.3	Suppliers are required to manage their own risk	281
6.3.5	Theme 3: Suppliers exhibit strong innovation leadership traits	283
6.3.5.1	Suppliers with a can-do approach aid product innovation performance	284
6.3.5.2	Suppliers that are enthusiastic and strive for continual improvement enable product innovation performance	285
6.3.6	Theme 4: The innovation journey is often haphazard and unharnessed	285
6.3.6.1	The quality of retailer-supplier interaction unlocks the innovation process	286
6.3.6.2	Scant knowledge sharing debilitates innovation progress	289
6.3.6.3	A lack in formal processes undermines the potential to innovate	290
6.3.6.4	A misunderstood end-consumer thwarts product innovation performance	291
6.3.7	External team supplier participant summary	292
6.4	Innovation expert data analyses	294
6.4.1	Open and axial coding	294
6.4.2	Findings	298
6.4.3	Theme 1: Leaders are highly impactful in leading team members towards product innovation performance	306
6.4.3.1	Team members are positively influenced when their leaders fully fulfil an innovation champion role	307
6.4.3.2	Leaders smooth the innovation-way by ensuring processes are aligned and organisational structure is optimised	309
6.4.3.3	Leaders smooth the way by ensuring people are aligned through vision and strategy	311
6.4.4	Theme 2: Internal team relationship-dynamics and organisational culture contribute to a healthy innovation ecosystem	312
6.4.4.1	A diverse team enables multiple perspectives and knowledge inputs	312
6.4.4.2	The organisational environment and culture in which innovation is to occur plays a significant role in innovation outcomes	315
6.4.4.3	The organisational stance regarding failure affects organisational culture and innovation approach	316
6.4.5	Theme 3: Internal and external team relationships with an open innovation approach is not a linear or predictable	317
6.4.5.1	Suppliers are valuable innovation partners to retailers in the achievement of product innovation performance goals	318
6.4.5.2	Supplier relationships require time, development and investment to unlock advantages	319
6.4.5.3	Risk management should be conducted by both supplier and retailer	321
6.4.5.4	A pervasive transactional cycle threatens ideally developing partnerships	323
6.4.6	Theme 4: Product innovation performance is anchored as end-consumer relevance	326
6.4.6.1	The end-consumers of products are the ultimate litmus test in the product innovation performance journey	326

6.4.6.2	End-consumer relevance is dependent on essential components working in unison and requires necessary time investments	328
6.4.7	Innovation expert participant summary	330
6.5	Synthesis of qualitative data	331
6.6	Summary	337
CHAPTER 7: DISCUSSION		338
7.1	Introduction	338
7.2	Broad reconciliation of quantitative and qualitative data	338
7.3	Reconciliation of the research questions	339
7.3.1	Research question 1: What is the relationship between transformational leadership, self-leadership and leader-member exchange?	340
7.3.2	Research question 2: To what degree does self-leadership mediate between transformational leadership and leader-member exchange?	341
7.3.3	Research question 3: What is the relationship between transformational leadership and leader-member exchange?	341
7.3.4	Research question 4: To what degree does leader-member exchange mediate between transformational leadership and product innovation performance?	342
7.3.5	Research question 5: To what extent does internal stakeholder perceived organisational innovativeness mediate a relationship between internal leader-member exchange quality and product innovation performance?	343
7.3.6	Research question 6: What is the relationship between transformational leadership, leader-member exchange, retailer-supplier exchange and product innovation performance?	344
7.3.7	Research question 7: To what extent does leader-member exchange act as a mediator between transformational leadership and retailer-supplier exchange?	345
7.3.8	Research question 8: What is the relationship between transformational leadership and retailer-supplier exchange?	346
7.3.9	Research question 9: To what degree do transformational leaders influence product innovation performance?	346
7.4	Summary	347
CHAPTER 8: CONCLUSIONS AND RECOMMENDATIONS		348
8.1	Research contribution	348
8.2	Contribution to practice and policy	351
8.3	Limitations and recommendations for future research	353

8.4	Conclusion	355
	REFERENCE LIST	357
	APPENDICES	408

LIST OF FIGURES

Figure 1 A Description of the Dimensions of Innovation.....	10
Figure 2 Dimensions of Innovation.....	12
Figure 3 Determinants of Innovation, Crossan and Apaydin, 2010.....	14
Figure 4 Consolidation and Consensus of Innovation Leadership Components.....	17
Figure 5 Grouped Elements Involved in Innovation Leadership.....	19
Figure 6 The Five Stages in the Typical Idea-to-Launch Stage-Gate® System.....	25
Figure 7 Innovation Measurement Model.....	28
Figure 8 The Six Dimensions of Consumer Retail Performance.....	36
Figure 9 Relationships, Barriers and Facilitators to Grocery Retail Innovation.....	38
Figure 10 The Mediation Role of Knowledge Management.....	55
Figure 11 Trust Maturity Framework.....	88
Figure 12 Overall Risk/Benefit Profile as Companies Leverage Trust via Collaborative Innovation.....	89
Figure 13 Relationship Strength-Performance Spiral.....	90
Figure 14 Development of an Initial Model with a Specific Focus on Transformational Leadership, Self-Leadership and Leader-Member Exchange.....	96
Figure 15 Development of an Initial Model with a Specific Focus on Transformational Leadership, Leader-Member Exchange and Product Innovation Performance.....	97
Figure 16 Development of an Initial Model with a Specific Focus on Perceived Organisational Innovativeness as a Mediator between Leader-Member Exchange and Product Innovation Performance.....	98
Figure 17 Development of an Initial Model with Retailer-Supplier Exchange as a Mediator between Transformational Leadership, Leader-Member Exchange and Product Innovation Performance.....	99
Figure 18 Development of an Initial Model with Leader-Member Exchange as a Mediator between Transformational Leadership and Retailer-Supplier Exchange.....	100
Figure 19 Development of an Initial Model with Retailer-Supplier Exchange as a Mediator between Transformational Leadership and Product Innovation Performance.....	100
Figure 20 The Initial Model of the Conceptual Relationships.....	101
Figure 21 Number of Participants Approached for Quantitative and Qualitative Data Gathering.....	111
Figure 22 Adapted Conceptual Model for Basic Thematic Sorting.....	140
Figure 23 Coding Sequence of Phases to Achieve Data Refinement.....	141

Figure 24 Direct Involvement in Product Innovation by Respondents (n=222).....	145
Figure 25 Age Bracket Distribution Among Respondents (n=222)	146
Figure 26 The Distribution of Respondents' Length of Service to the Organisation (n=222)	147
Figure 27 The Distribution of Respondent Length of Service in Current Position (n=222).....	147
Figure 28 The Duration of Supply to the Retailer (n=65).....	148
Figure 29 The Distribution of All-Year Versus Seasonal Supply to the Retailer (n=65).....	149
Figure 30 Transformational Leadership Inventory (TLI) Overall Assessment (n=272).....	152
Figure 31 Transformational Leadership Inventory (TLI) Reported per Dimension (n=272).....	152
Figure 32 Abbreviated Self-Leadership Questionnaire (ASLQ) Responses (n=282).....	153
Figure 33 Leader-Member Exchange Questionnaire (LMX) Responses (n=310)	154
Figure 34 Retailer-Supplier Exchange Questionnaire (RSX), Comparative Retailer (n=222) and Supplier Responses (n=65)	155
Figure 35 Retailer-Supplier Exchange Questionnaire (RSX), Comparative Retailer (n=222) and Supplier Responses (n=65)	156
Figure 36 Perceived Organisational Innovativeness Questionnaire (PORGI) Responses (n=316)	157
Figure 37 Product Innovation Performance Questionnaire (PIP) Responses (n=222).....	158
Figure 38 Product Innovation Performance Questionnaire Responses Along Dimensions (n=222)	158
Figure 39 Initial Conceptual Model.....	159
Figure 40 Transformational Leadership Inventory (TLI) Six-Factor Model	160
Figure 41 Transformational Leadership Inventory (TLI) Seven-Factor Model	165
Figure 42 Abbreviated Self-Leadership Questionnaire Three-Factor Model.....	167
Figure 43 Internal Leader-Member Exchange (LMX) and External Retailer-Supplier Exchange (RSX) Single-Factor Model	172
Figure 44 Perceived Organisational Innovativeness Unidimensional Factor Model	177
Figure 45 PORGI Line Plot of Variables	179
Figure 46 Perceived Organisational Innovativeness (PORGI) Model With Four-Factors	182
Figure 47 Product Innovation Performance (PIP) Five-Factor Model.....	186
Figure 48 Conceptual Model (PLS-SEM Results).....	202
Figure 49 Conceptual Model (CB-SEM Results)	204
Figure 50 Mediation Effect Between TLI and LMX, via ASLQ (PLS-SEM Results)	205
Figure 51 Mediation Effect Between TLI and RSX, via LMX (PLS-SEM Results)	206
Figure 52 Mediation Effect Between TLI and PIP, via LMX (PLS-SEM Results)	206
Figure 53 Mediation Effect Between TLI and PIP, via LMX and RSX (PLS-SEM Results).....	207

Figure 54 Mediation Effect Between TLI and PIP, via LMX and PORGI (PLS-SEM Results)	208
Figure 55 Mediation Effect Between TLI and PIP, via RSX (PLS-SEM Results)	208
Figure 56 The Conceptual Model, With Supporting Data Specifically Provided by the Qualitative Internal Team Participants	259
Figure 57 The Conceptual Model, With Supporting Data Specifically Provided by the Qualitative External Team Participants	293
Figure 58 The Conceptual Model, With Supporting Data Specifically Provided by the Qualitative Innovation Expert Participants.....	330
Figure 59 The Conceptual Model, With Combined Supporting Data Specifically Provided by the Three Qualitative Data Sets of Participants.....	332
Figure 60 The Conceptual Model, With Additional Descriptions and Checkmarks Representing Supportive Data From the Qualitative Data	333
Figure 61 All Qualitative Themes and Subthemes, Colour Coded and Numbered According to Conceptual Model Correspondence, Sorted According to Qualitative Subset	334
Figure 62 All Qualitative Subthemes, Colour Coded and Numbered According to Conceptual Model Correspondence, Sorted in Sets, According to Similarity.....	336

LIST OF TABLES

Table 1 Behavioural Components of Existing Models of Transformational Leadership	45
Table 2 A Comparison Between Transformational Leadership and Innovation Leadership Along Six Dimensions.....	56
Table 3 Representation of Self-Leadership Strategies.....	60
Table 4 Leader-Member Exchange Outcomes.....	69
Table 5 Leader-to-Member Narrative Sensemaking of Trust	73
Table 6 Comparative Relationship Formation Phases	84
Table 7 An Outline of Mixed-Method Typologies.....	105
Table 8 Measurement Instruments and Representing Constructs Presented to Internal and Intermediary Team Respondents	107
Table 9 Measurement Instrument and Representing Construct Presented to External Team Supplier Respondents.....	108
Table 10 Survey Instrument Distribution Details.....	108
Table 11 Interviewee Data Groups	110
Table 12 Comparative Reliability Estimates Across Recent TLI Studies	116
Table 13 Comparative Reliability Estimates Across Recent ASLQ Studies	118
Table 14 Comparative Reliability Estimates Across Recent PIP-Scale Studies	123
Table 15 Sequence of Events as Part of the Quantitative Analyses.....	125
Table 16 Cut-Off Criteria of Several Fit Indices.....	128
Table 17 Outline of Interviews, Grouped According to Innovation Clusters, with Corresponding Internal, Intermediary and Supplier Team Member Interviewee Involvement	133
Table 18 Tabular Outline of Innovation Expert Interviewees, with Specific Reference to Their Expertise	134
Table 19 Main a Priori Themes, with Abbreviations as Code-Prefixes, Data Component Relevance and Assigned Colour coding	139
Table 20 An Example of Coding Sequence of Phases with an Example from This Research Study.....	141
Table 21 Survey Instrument Response Rates.....	149
Table 22 Individual Constructs, Subject of Assessment and Total Responses Achieved Among Internal Team Member Respondents.....	150
Table 23 Individual Construct and Subject of Assessment Among External Team Supplier Respondents.....	151

Table 24 Descriptive Statistics for Internal Team Member and External Supplier Team Member RSX Responses	155
Table 25 Standardised Loadings for Six-Factor Indicator Loading Analysis TLI Model 1 (N=222).....	161
Table 26 Internal Consistency Reliability for TLI Model 1, 2 and 3 (n=222).....	162
Table 27 Comparison of Fit Indices for Six-Factor TLI Model 1 and 2, and Seven-Factor TLI Model 3 (n=222)	163
Table 28 Average Variance Extracted (AVE) for TLI Model 1, 2 and 3 (n=222).....	164
Table 29 Discriminant Validity Expressed in Heterotrait-Monotrait Ration Values for TLI Model 3	166
Table 30 Standardised Loadings for Three-Factor Indicator Loading Analysis for ASLQ (N=222).....	168
Table 31 Internal Consistency Reliability for ASLQ Model 1 and 2 (n=222).....	169
Table 32 Average Variance Extracted (AVE) for ASLQ Model 1 and 2 (n=222).....	169
Table 33 Comparison of Fit Indices for Three-Factor ASLQ Model 1 and 2 (n=222).....	170
Table 34 Discriminant Validity Expressed in Heterotrait-Monotrait Ration Values for the ASLQ Model	171
Table 35 Standardised Loadings for Single-Factor Indicator Loading Analysis for LMX and RSX (N=222)	173
Table 36 Internal Consistency Reliability for LMX and RSX (n=222)	173
Table 37 Average Variance Extracted (AVE) for LMX and RSX (n=222)	174
Table 38 Fit Indices for Single-Factor Goodness-of-Fit Indices for LMX and RSX (n=222)	174
Table 39 Discriminant Validity Expressed in Heterotrait-Monotrait Ration Values for the LMX Model	175
Table 40 Discriminant Validity Expressed in Heterotrait-Monotrait Ration Values for the RSX Model	176
Table 41 Fit Indices for Single-Factor Goodness-of-Fit Indices for PORGI (n=222).....	178
Table 42 Eigen Values for a Four-Factor PORGI (N=222)	179
Table 43 A Four-Factor Pattern Matrix from Oblimin Rotation for PORGI	180
Table 44 Internal Consistency Reliability for PORGI Model 1 and PORGI Model 2 (n=222)	183
Table 45 Average Variance Extracted (AVE) for PORGI Model 1 and PORGI Model 2 (n=222).....	183
Table 46 Comparison of Fit Indices for One-Factor PORGI Model 1 and Four-Factor PORGI Model 2 (n=222)	184
Table 47 Discriminant Validity Expressed in Heterotrait-Monotrait Ration Values for PORGI Model 2.....	185
Table 48 Internal Consistency Reliability for the Five-Factor PIP Model (n=222).....	187

Table 49 Average Variance Extracted (AVE) for the Five-Factor PIP Model (n=222)	187
Table 50 Comparison of Fit Indices for the Five-Factor PIP Model (n=222)	188
Table 51 Discriminant Validity Expressed in Heterotrait-Monotrait Ration Values for the PIP Model	189
Table 52 Reflective Indicator Loading Summary for All Six Constructs.....	190
Table 53 Composite Reliability Summary for All Six Constructs	192
Table 54 Average Variance Extracted for All Six Constructs	193
Table 55 Discriminant Validity Expressed in Heterotrait-Monotrait Ration Values for Six Constructs.....	193
Table 56 Comparative Fit Indices for Six Constructs.....	195
Table 57 Construct Correlations for Six Constructs	197
Table 58 Multicollinearity for Six Latent Variables in a Structural Model	199
Table 59 Coefficient of Determination for Five Constructs	200
Table 60 Path Coefficients Between Six Latent Variables in a Structural Model.....	201
Table 61 Path Coefficients Between Six Latent Variables in a Structural Model.....	203
Table 62 Interview Response Rates	210
Table 63 Biographical Sample Description of Internal Team Interviewees	211
Table 64 Biographical Sample Description of External Team Supplier Interviewees.....	213
Table 65 Biographical Sample Description of Innovation Expert Interviewees	214
Table 66 Conceptual Model Constructs Relevant to Internal Team Participants	216
Table 67 An Example of Coding Sequence of Phases With an Example From the Internal Team Participants.....	217
Table 68 Phase Four Quotation Count, for Internal Team Participant Data, Grouped Along the Elements of the Conceptual Model	218
Table 69 Second-Level Open Codes Linked to ‘the Relationship Between Suppliers and Retailers’ as an Initial Thematic Grouping.....	220
Table 70 Second-Level Open Codes Linked to ‘Internal Relationships and Fragmentation’ as an Initial Thematic Grouping	222
Table 71 Second-Level Open Codes Linked to ‘Leadership and Innovation Culture’ as an Initial Thematic Grouping	223
Table 72 Second-Level Open Codes Linked to ‘End-Consumer Relevance’ as an Initial Thematic Grouping.....	224
Table 73 Themes and Subthemes Identified From the Internal Team Member Interviews.....	225
Table 74 Conceptual Model Constructs Relevant to External Team Supplier Participants	260

Table 75 An Example of Coding Sequence of Phases With an Example From the External Team Participants.....	261
Table 76 Phase Four Quotation Count, for Supplier Participant Data, Grouped Along the Elements of the Conceptual Model	262
Table 77 Phase Six Initial Thematic Groupings, for External Team Supplier Participants, in Order of Groundedness, With Additional Descriptions.....	264
Table 78 Second-Level Open Codes Pertaining to the Link Between Transformational Leadership and Retailer-Supplier Exchange Constructs	265
Table 79 Second-Level Open Codes Pertaining to Suppliers Taking the Strong Lead in the Innovation Journey	266
Table 80 Second-Level Open Codes Pertaining to Relationship Development	267
Table 81 Second-Level Open Codes Pertaining to the Innovation Journey, Specifically the Interaction Between Supplier and Retailer	268
Table 82 Themes and Subthemes Identified From the Supplier Interviews.....	270
Table 83 Conceptual Model Constructs Relevant to Innovation Expert Participants.....	294
Table 84 An Example of Coding Sequence of Phases With an Example From the Innovation Expert Participants.....	295
Table 85 Phase Four Quotation Count, for Innovation Expert Participant Data, Along the Elements of the Conceptual Model	296
Table 86 Phase Six Initial Thematic Groupings, for Innovation Expert Participants, in Order of Groundedness, With Additional Descriptions	297
Table 87 Codes That Pertain to the Innovation Leadership Required for Product Innovation Performance	298
Table 88 Codes That Pertain to Internal Team Dynamics and the Organisational Culture That Enable Product Innovation Performance	300
Table 89 Codes That Pertain to Internal and External Relationships in an Open Innovation Fashion With Links to Product Innovation Performance	301
Table 90 Codes That Pertain to Innovation Success, Expressed as End-Consumer Relevance.....	304
Table 91 Themes and Subthemes Identified from the Interviews With Innovation Experts.....	306
Table 92 Broad Reconciliation of Quantitative and Qualitative Data According to Research Questions.....	338
Table 93 Phase Five, Second-Level Open Codes, in Order of Groundedness for Internal Team Participants.....	430

Table 94 Phase Five, Second-Level Open Codes, in Order of Groundedness for External Team Supplier Participants.....	432
Table 95 Phase Five, Second-Level Open Codes, in Order of Groundedness for Innovation Expert Participants.....	435

LIST OF APPENDICES

Appendix A: Quantitative research instruments for internal team respondents.....	408
Appendix B: Quantitative research instruments for external team supplier respondents	414
Appendix C: Interview question development	415
Appendix D: Qualitative interview questions	419
Appendix E: Ethical considerations.....	422
Appendix F: Internal team participant data coding.....	430
Appendix G: External team participant data coding.....	432
Appendix H: Innovation expert participant data coding.....	435

ACRONYMS AND ABBREVIATIONS

AGFI	adjusted goodness-of-fit index
ASLQ	abbreviated self-leadership questionnaire
AVE	average variance extracted
CFA	confirmatory factor analysis
CFI	comparative fit index
DF	degrees of freedom
GFI	goodness-of-fit index
LMX	leader-member exchange
MLQ	multifactor leadership questionnaire
PIP	product innovation performance
PORGI	perceived organisational innovativeness
RMSEA	root mean square error of approximation
RSX	retailer-supplier exchange
SEM	structural equation model
SL	self-leadership
TCA	thematic content analysis
TLI	transformational leadership inventory

CHAPTER 1: RESEARCH PROBLEM AND CONTEXT

1.1 INTRODUCTION

As a cornerstone of organisational survival, the imperative to innovate is repeatedly underscored in the body of business knowledge (Baumol, 2002; Midgley, 2010; Tohidi & Jabbari, 2012; Trott, 2012), since innovation is considered the dynamo of growth (Schumpeter, 1982). The ability to successfully innovate is a phenomenon that remains a deeply salient and multifaceted aspect of contemporary organisations' sustained competitive advantage (Alegre & Chiva, 2008; Gumusluoglu & Ilsev, 2009). The main problem with achieving innovation success is that the path is not linear and the outcomes are not failure-proof (Van der Ven et al., 2008). Innovation is a broad term that covers a wide spectrum of aspects and activities, where the distillation of a comprehensive general formula for innovation success would be ideal, but is unachievable owing to the nuances in each type of innovation (Camisón-Zornoza et al., 2004; Damanpour & Gopalakrishnan, 1998; Jacobs, 2013; Prange & Schlegelmilch, 2010; Tidd, 2001). The imperative to clearly define the type of innovation quest is connected to achieving success (Ahmed, 1998). However, defining the type of innovation in its granularity does not mean the innovation quandary is automatically solved. In addition, to grasp specific innovation typology, there are (1) external factors, (2) industry dynamics, and (3) internal organisational factors that require attuning to achieve product innovation performance.

The external environment and context in which South African grocery retail product innovation needs to perform include globalisation and emerging economy effects. South Africa's expeditious transition from a self-sufficient state to a globalised player from the 1990s is best supported by the doubling of inbound foreign direct investment from \$15 billion in 1990 to \$32 billion in 2000 (Klein & Wöcke, 2007). South Africa is considered a small emerging economy (De Bruyn & Freathy, 2011), with vulnerability in terms of unexpected exchange rate fluctuations, which in turn affects the cost of doing business for retailers and their suppliers (Kohnert, 2019). One example that can attest to the pertinence of globalisation in the South African grocery retail milieu is when commodity pricing fluctuates owing to seemingly independent political events. For instance, the Brexit referendum in 2016 caused unexpected abrupt fluctuations in the globally governed cocoa price (Kohnert, 2019), with reverberations affecting small South African-based manufacturing businesses supplying the local grocery retail industry (Kohnert, 2019). The exponential effect of technological advancement has rendered this globalised world infinitely more competitive, where the speed of change is likely to be faster than the speed of anticipation, thus setting the bar even higher in order to successfully innovate

for current and future needs (Durmusoglu & Barczak, 2011; Maltz et al., 2001; Pathirage et al., 2007; Pérez-Bustamante, 1999; Ross et al., 2005; Stashevsky et al., 2006).

The contemporary grocery retail industry dynamics involve increased local and global competition and disruption in purchasing channels, which are the salient aspects relating to modern retail, irrespective of country (Ganesan et al., 2009). The complexity involved in product innovation performance include: (1) global sourcing; (2) multichannel paths to consumers, where a change in decades-old supply chain systems are rapidly transforming and causing strain on calcified systems; and (3) relationship-based innovation with an increase in supplier dependence to achieve incremental to radical innovation (Ganesan et al., 2009). The constant need to perform in terms of new product innovations is evident in the fact that product life cycles have evolved from typically 20-year cycles in the 1950s, to five-year cycles in the early 1990s, to present-day 18-24-month cycles (Cooper, 2011).

The internal factors that contribute to product innovation performance include: (1) the 'how' component entailing innovation processes (Cooper, 2011) and necessary technology (Gold, 1973); (2) the 'what' component involving the commercial dovetailing with the innovation end-user (Breuer et al., 2014); and (3) the 'who' component including the people that accomplish the innovation in a context of great complexity, competition and pressure (Kaplan & Norton, 1996). The knowledge workers are included in the 'who' component and therefore play a pivotal part in organisations accomplishing successful innovation (Howell et al., 2005). A paradigm shift from 'human resources' to 'human capital' holds at its core a focus on sustained competitive advantage, where 'human capital' is defined as the combination of knowledge, skills, innovativeness and specific abilities within the workforce in order to achieve company-specific performance goals (Birasnav et al., 2011). Therefore, appropriate leadership is also considered paramount in order to stimulate and lead innovation (Prange & Schlegelmilch, 2010), specifically by harnessing human capital efficiently (Pérez-Bustamante, 1999; Stashevsky et al., 2006) and cultivating innovative behaviour in employees (De Jong & Den Hartog, 2007). Innovation success has been associated with both transformational leadership and self-leadership behaviours (Howell & Higgins, 1990; Phelan & Young, 2003; Sarros et al., 2011; Stashevsky et al., 2006). Sheehan et al. (2020) however asserted that the relationship between transformational leadership and innovation is inconclusive and emphasised the need to investigate the mediators between transformational leadership and innovation in greater detail. The mediating effect of leader-member exchange and/or retailer-supplier exchange between transformational leadership and product innovation performance is relatively unexplored in the existing literature.

A transformational leadership style has vast, positive implications for organisational effectiveness and innovation performance. Pioneered by Bass et al. (1987), transformational leadership includes the

following four dimensions: (1) idealised influence or charisma; (2) inspirational motivation; (3) intellectual stimulation; and (4) individualised consideration. In subsequent years, the construct of transformational leadership has been expanded by Podsakoff et al. (1990) to also include the ability to articulate a compelling vision, and high-performance expectations. The latter expansion of the definition by Podsakoff et al. (1990) to make up a total of six dimensions is applied throughout this research. The effect of transformational leaders navigating through a complex ecosystem, such as the rapidly moving grocery retail industry where there is a strong reliance on internal team knowledge sharing and external supplier involvement, forms a core part of this research.

Self-leadership as a phenomenon is relevant to team members across the organisation and hierarchy (Phelan & Young, 2003). Self-leadership consists in self-motivation relating to the cognitive and behavioural drive to constantly improve, prompted by self-reward mechanisms (Marques-Quinteiro et al., 2019), and has proved to have a considerable impact on innovation performance (Stashevsky et al., 2006). The cornerstone of innovative behaviour - along with transformational leadership and self-leadership attributes - is the ability to build relationships between those involved with innovation (De Jong & Den Hartog, 2007; Graen & Scandura, 1987). Adopting a broad approach, this research incorporates both internal team relationships and external team relationships - the latter referring to the relationships between internal team members and their supplier counterparts. Internal team relationships involve factors like the quality of relational exchange, a positive organisational climate, culture, and effectiveness in order to ensure innovation success (Nemanich & Keller, 2007). External team relationships involve the strategic partnering and nurturing of the supply chain (Breuer et al., 2014), and specific to this research, the suppliers. Suppliers generally already occupy niches with intense focus, which enable sustained competitiveness via uniqueness and time-to-market efficiency (Johnsen, 2009; Pisano, 1990; Tsai, 2009). Especially when it concerns successful product innovation, strategic supplier relationships are lauded to be a fundamental component of achievement (Albors-Garrigos, 2020).

Contemporary, post-globalised organisational effectiveness is dependent on the organisation's ability to innovate (Bong Choi & Williams, 2013; Kallio & Lappalainen, 2015). Innovation in the quest to secure competitive advantage and future growth (Drucker, 1993) simultaneously augments the pressure to successfully achieve product innovation performance (Sjoerdsma & Van Weele, 2015). With the emphasis on innovation success, the first section in Chapter 2 focuses on the granular aspects of innovation. A grasp of the specific innovation in question is directly connected to achieving innovation success (Ahmed, 1998). The focus of this research is to study the effect of leadership and relationships on performance when it concerns product innovation. The objective of the study is to contribute to

the body of knowledge on leadership and relationships, and the resulting effect on product innovation performance.

1.2 OBJECTIVES OF THE RESEARCH

The essence of this research is to study the effect of leadership and relationships on performance when it concerns product innovation. The investigation would contribute to the body of knowledge on leadership, relationships, and the resultant effect on product innovation performance.

More specifically, the focus of this research concerns the respective association between: (1) transformational leadership and self-leadership; (2) transformational leadership and internal team members; and (3) transformational leadership and external team members. The study then focuses on the correlation between internal team members and external team members. Finally, the study concentrates on how: (1) self-leadership; (2) internal team members; and (c) external team members, individually, affect product innovation performance.

1.3 DEFINITION OF KEY CONCEPTS

The research involves several key constructs for which initial concise definitions are provided to orient readers of the literature review.

1.3.1 Leadership

The leadership component of this research involves two main constructs, namely transformational leadership and self-leadership. The embodiment of a **transformational leadership** style includes the combined presence of key attributes (Mills & Boardley, 2017), such as having high levels of charisma, portraying exemplary qualities attracting follower-emulation, being able to articulate a compelling vision, providing inspirational motivation, harnessing collaboration to achieve group goals, demanding high-performance expectations, displaying individually tailored consideration and support, and providing intellectual stimulation (Bass & Avolio, 1994; Podsakoff et al., 1990). Transformational leadership is often grouped among full range leadership theories (Bass, 1985), as well as *neo-charismatic leadership theories* (Palrecha et al., 2012), and juxtaposed with transactional leadership (Burns, 1978). Transformational leadership positively affects organisational performance, follower satisfaction, commitment and organisational identity (Den Hartog et al., 1999).

Self-leadership involves various strategies deployed at varying times and in varying degrees, either in combination or in isolation (Goldsby et al., 2021; Houghton & Neck, 2002; Politis, 2006). The self-leadership strategies determine how individuals think, behave and reward themselves (Georgianna, 2007; Millikin et al., 2010; Prussia et al., 1998). These strategies are:

- self-awareness, defined as the observing of own behaviour and in high levels creating confidence, enthusiasm, engagement, creativity and performance;
- volitional strategies involving decision, intention and commitment with regard to goal-setting and attainment, and especially the completion of unpleasant and difficult tasks;
- aspects of motivation in order to achieve bigger goals via the achievement of the smaller components, with rewards built into these smaller achievements;
- cognitive strategies that entail self-analysis for tailored mental models, beliefs, assumptions, imagination and practice sessions of ideal performance; and
- behaviour-focused strategies that anchor on self-regulation, self-management and self-control (this strategy is generally always in tandem with at least one of the aforementioned strategies).

1.3.2 Relationships

Relationships in the context of this research study involve two sets: (1) internal team relationships, which involve the team leaders and team members in commercial, technical and product development roles; and (2) relationships between these same internal team members and their external strategic supplier counterparts. Retailer-supplier relationships are referred to as internal-external team relationships. For additional clarity, this research study does not focus on the quality of external teams in isolation, rather this research study is a specific concentration of internal-external relational quality. Conceptually, internal team relationships are assessed in this research according to leader-member exchange theory. Leader-member exchange theory has been extended to these internal-external team relationships and is dubbed retailer-supplier exchange for the purposes of this research.

Leader-member exchange theory was developed from the combined tenets of Blau's 1964 social exchange theory and Turner's 1979 role theory (Abu Elanain, 2014). The theory is defined as the dyadic relational exchange and quality between a specific leader and follower (Maksom & Winter, 2009), which develops over time (Mahsud et al., 2010). The differentiated relationship from one dyad to the next is classified in terms of high- or low-quality exchange (Dulebohn et al., 2017).

Retailer-supplier exchange is an extension of leader-member exchange theory and therefore applies the same principles of specificity, time-dependence, differentiation, and strength classification, but focuses on the internal-external team member relationships. Relational quality in a retailer-supplier context affects quality of knowledge exchange and potential product development performance (Sjoerdsma & Van Weele, 2015). The relationship between retailers and suppliers mature over time and is highly dependent on trust (Fawcett et al., 2012). The existence of relational trust in the context

of retailers and suppliers is considered a cornerstone aspect to enable open innovation, which in turn enables innovation rapidity and high levels of success (Cheng & Chen, 2013).

1.3.3 Innovation

Innovation involves development and implementation (Mumford et al., 2002; Van de Ven, 1986), novelty and newness on some level, be that in terms of product, production, organisation, supply-source, or market (Schumpeter, 1982). Innovation can be radical and disruptive or incremental and moderate (Damanpour, 1991). Innovation can often be mistaken for invention (Fagerberg, 2005). Invention involves the creation of a new idea and, once this idea has developed to reach the commercial stage, it is considered to be innovation (Van de Ven et al., 2008). The commercial stage is defined as “bringing something new into use” (Mohr, 1969, p. 112), for example bringing a product to market for end-consumer engagement (Hristov & Reynolds, 2015).

Innovation is a general term that includes: (1) a type, which may include product, process or business model innovation; and (2) a level, specifically individual, group, organisation, industry, end-consumer, region or geography (Crossan & Apaydin, 2010). The term ‘innovation’ is often used “widely and ambiguously” (Mohr, 1969, p. 111). Damanpour (1991) stated that when innovation is studied at a high level, generalisations are vastly inappropriate, and sub-theories matched with the type of innovation provide far better frameworks and metrics to lead to success.

To innovate successfully, the appropriate investment of resources is required (Zhang et al., 2015). An appropriate investment, in turn, requires some level of assurance of innovation success (Tidd, 2001). Innovation success generally occurs as a result of the necessary investment of appropriate people, technology, equipment, time and capital, which raises questions regarding certainty of success (Albors-Garrigos, 2020; Cormican & O’Sullivan, 2004). Several authors (Cooper, 2011; Crossan & Apaydin, 2010; Tidd, 2001) assert that when the specific requirements of targeted innovation are known, they can be dovetailed with appropriate success metrics, process frameworks, procurement, market strategies, and capital requirements. For example, if it is clear that the type of innovation is a fast-moving consumer grocery product, there are known frameworks to lean on in order to have the optimum chance of achieving success.

This research is focused particularly on product innovation performance, defined as the novel outputs in the form of products and services that are introduced in a grocery retailer setting for the benefit of customers (Gopalakrishnan & Damanpour, 1997).

1.4 SUMMARY AND STRUCTURE OF THE DISSERTATION

In Chapter 1, the dissertation attempts to provide a literature overview that firstly contextualises the modern organisation in a global then South African setting, followed by industry context. An innovation overview follows, to itemise the relevance of granularity or specificity of innovation. A section on leadership and relationships then follows. Wherever possible, the known literature on key research concepts, and how they overlap each other, is also elaborated upon. Chapter 1 contains the research argument and itemises the research problem, objectives and questions Chapter 2 contains the research methodology for both the quantitative and qualitative aspects, while Chapter 5 and Chapter 6 itemise the findings. Chapter 7 includes a synthesis of quantitative and qualitative findings in relation to the research objectives, and Chapter 8 contains the conclusion and recommendations.

CHAPTER 2: LITERATURE OVERVIEW

Chapter 2 commences with an orientation of the terms: definition, typology, antecedents, and outcomes, providing context and establishing a granular positioning of what constitutes product innovation performance. The knowledge workers play a central role in achieving product innovation performance (Howell et al., 2005), which necessitates appropriate leadership (Kallio & Lappalainen, 2015) and relationships (De Jong & Den Hartog, 2007; Graen & Scandura, 1987). A subsequent review of leadership and relationships follows the first section on innovation.

2.1 INNOVATION

The concept of innovation has captured the imagination of a wide audience, from academics to practitioners - to such a degree that the word 'innovation' is considered a buzzword, often thoughtlessly applied (Sherer & Vertinsky, 2020; Subramanian & Nilakanta, 1996; Zuber & Weberg, 2020). Owing to prolific generalisations and a degree of misappropriation of the concept 'innovation', the distillation of a clear definition is essential (Crossan & Apaydin, 2010). Innovation is inextricably linked to being human, where the practicality of bringing about newness and improvement is foundational to human advancement (Fagerberg, 2005). The word 'innovation' is derived from the Latin word *novus* or 'new', which is defined as "a new idea, method or device" or "the process of introducing something new" (Gopalakrishnan & Damanpour, 1994, p. 95). The notion of newness or novelty assists in broadly defining innovation, which can be applied to the whole spectrum of types of innovation. The attribute of newness can mean 'doing things differently' or a 'change', with applications from technical production, a new source of supply, a new product or service, or a new way of structuring the organisation (Crossan & Apaydin, 2010, p. 1155). By the definition of an element of newness or change, it could also mean a recombination and renewal of old ideas (Van de Ven, 1986). However, the question remains whether 'newness' or 'doing things differently' or 'change' is a sufficient definition of innovation. Van de Ven et al. (2008) asserted that a new idea requires implementation into reality. An isolated new idea, no matter how profound, does not necessarily qualify as innovation. Fagerberg (2005, p. 4) asserted that although invention and innovation are closely associated and often indistinguishable, the major differentiation is that the former is "the first occurrence of an idea for a new product or process", while the latter is "the first attempt to carry it out in practice". Lukoschek et al. (2018, p. 268) stressed the relevance of new idea generation translating into idea realisation or implementation, in what they referred to as "dual innovation leadership". From the outset, innovation is therefore defined as "commercialising novel ideas" and "consumer acceptance of new ideas", and not "number of patents granted" (Hristov & Reynolds, 2015,

p. 127). While patents are considered a useful mechanism to define and protect an invention (Von Hippel, 1988), the invention only becomes an 'innovation' when its beneficial nature is confirmed (Camisón-Zornoza et al., 2004). One way of confirming the beneficial nature is through end-users supporting its necessity by purchasing and re-purchasing this particular innovation (Frey & Lüthje, 2011; Staudenmayer et al., 2005). According to Crossan and Apaydin (2010), innovation could be in the form of a process or an outcome or both. An innovation process is the emergence and development of an activity that then becomes a routine in the organisation (Van de Ven, 1986), and could be as simple as new equipment or methods included in the production of a product (Camisón-Zornoza et al., 2004). The outcome involves 'what' or 'what kind' of innovation (Crossan & Apaydin, 2010), be that in the form of a final product or service (Damanpour, 1991; Klarin, 2019).

Innovation is multidisciplinary as organisational creativity and innovation involve "a large number of people from different disciplines working effectively together to solve a great many problems" (Catmull, 2008, p. 66). Innovation is "holistic" and may involve a "range of activities necessary to provide value to customers and a satisfactory return to the business" (Ahmed, 1998, p. 30). Innovation is a dynamic interactive collaborative process between individuals and among groups (Kissi et al., 2012; Jacobs, 2013; Tuomi, 2002). According to Phelps and Tilman (2010, p. 102), 'dynamism' is the context of innovation is the "ability and proclivity to innovate". Tuomi (2002, p. 19) coins the "locus of innovation" as the collaboration between people with the result of a meaningful contribution by an innovation community. Innovation is therefore achieved by a variety of role players (Bönte & Keilbach, 2005; Fagerberg, 2005; Tsai, 2009; Wagner & Bode, 2014) and therefore does not exclude any part of the organisation per se and, as long as it is considered novel and beneficial from the perspective of a user, it qualifies as innovation.

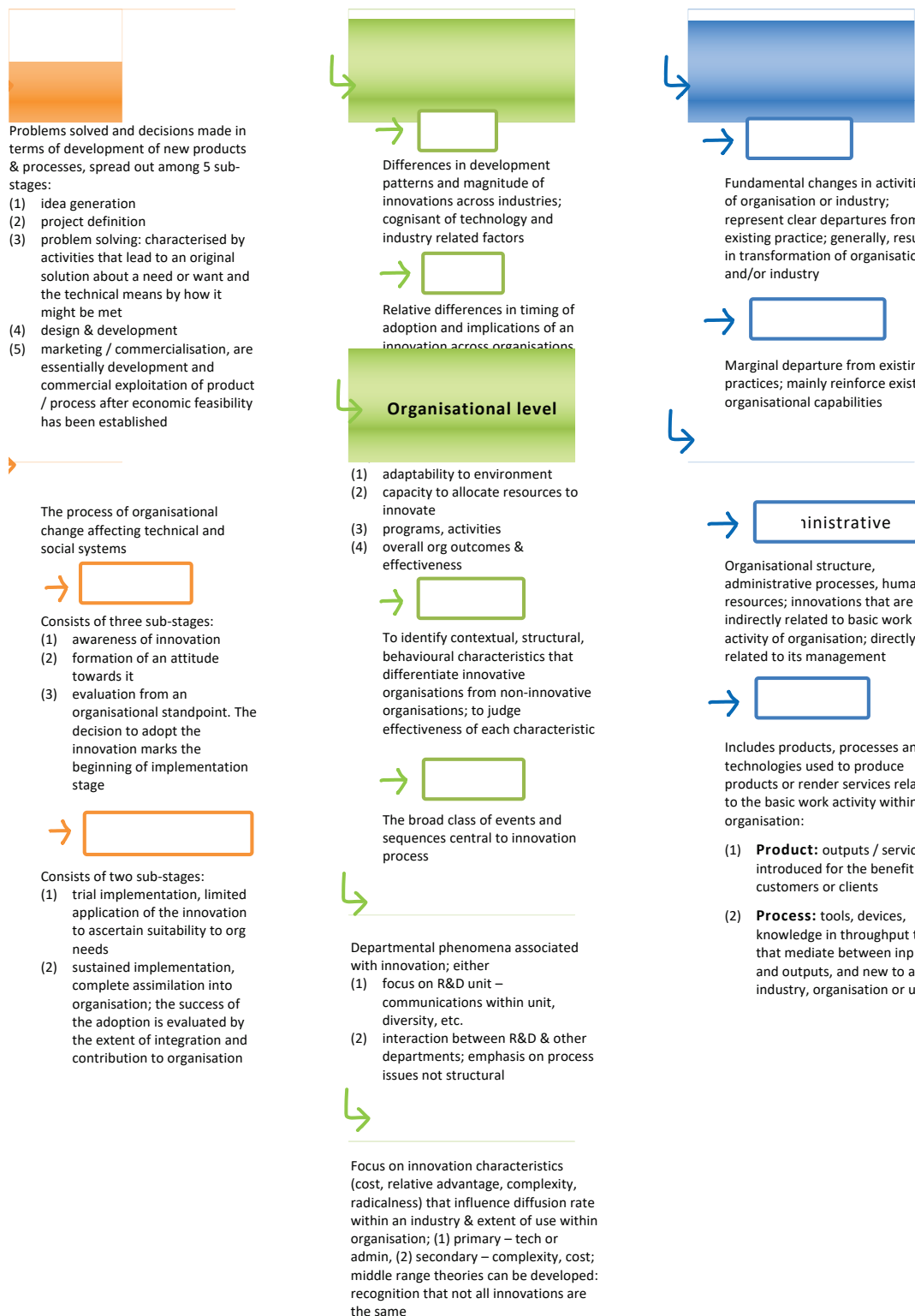
2.1.1 Dimensions of innovation

The term 'innovation' is an all-encompassing term that covers a range of aspects, features or dimensions. The term necessitates a precision search when reviewing literature and applying theories to this particular study focus, to ensure a successful outcome (Crossan & Apaydin, 2010). In line with the notion of expansiveness, innovation success depends on the strategy and resource allocation that best suit the particular innovation in question (Kraft & Bausch, 2016).

Gopalakrishnan and Damanpour (1997) consolidated the dimensions of innovation to include stages, levels and types, with each of these including subdimensions, as described in Figure 1.

Figure 1

A Description of the Dimensions of Innovation
A Description of the Dimensions of Innovation



Note. Adapted from Gopalakrishnan and Damanpour, 1997.

According to the description in Figure 1, the 'stage of innovation' is depicted in the first column. The 'stage' refers to how far the innovation has advanced. The first subdimension, namely the 'generation' of innovation, essentially involves innovating with a blank slate or from inception. The organisation generates innovation from initial ideation, followed by various specific developments, in order to reach a final commercially viable end result. The alternative to generating a new idea from inception is the adoption of innovation. The innovation-adoption approach entails the assessment of the value of an already-innovated aspect and the value it might fulfil in an organisation once implemented.

The 'levels of analysis' are described in the middle column of Figure 1, and could be on an industry level, organisational level, sub-unit level or innovation level. *Industry-level analysis* can either assess across or within industries - for example, *intra-industry level* analyses how organisations from the same industry adopt similar innovations. On an *organisational level*, the objective is to coordinate the structure of the organisation so as to have sound processes or sequences to lead to sound innovation results or outcomes. *Sub-unit analysis* focuses on the particular departments or business units that effectuate the innovation. *Innovation-level of analysis* focuses solely on the aspects that concern the innovation itself, namely costs, complexity and advantage.

Finally, the 'type of innovation' is described in the last column of Figure 1, and juxtaposes (a) radical versus incremental and (b) technical versus administrative. Radical innovation generally involves a major technological breakthrough (Füller & Jonas, 2013) and is generally sought by new market entrants (Harborne & Johne, 2003). It is salient to define other terms often misunderstood as 'radical' innovations (Füller & Jonas, 2013), namely:

- 'discontinuous' innovation is new technology applied to solve an existing need in a new way;
- 'breakthrough' innovation is an 'out of the blue solution', not comparable to an existing solution; and
- 'disruptive' innovation, such as a new product or service, enters at the low end of the market and gradually moves up to replace established products.

Radical and incremental innovations can be viewed as extreme points on a continuum (Henderson & Clark, 1990). Incremental innovation refers to smaller innovation achievements, often sought out by incumbent organisations, as a measure to maintain market share (Gopalakrishnan and Damanpour, 1997). An example, albeit not the only form, is cost-cutting (Harborne & Johne, 2003).

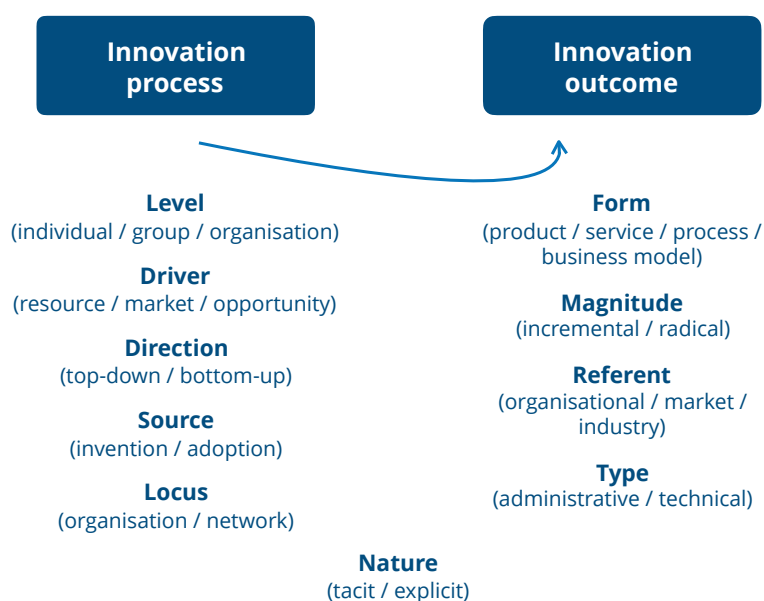
The second type of innovation, according to Figure 1, juxtaposes administrative and technical innovation. These two elements are often referred to as 'dual-core' innovation (Daft, 1978). Administrative innovation relates to the elements of organisational effectiveness, including human

resources, structure, control systems. Technical innovation relates to basic work activities, including products, processes and the specific technologies used to produce products or render services (Gopalakrishnan & Damanpour, 1994). Administrative innovation occurs from the top down, while technical innovation is generally propagated from the bottom up (Daft, 1978).

Crossan and Apaydin (2010) delineated the dimensions of innovation according to processes and outcomes, as shown in Figure 2.

Figure 2

Dimensions of Innovation



Note. Reproduced from Crossan and Apaydin, 2010.

In terms of dimensions, Figure 2 differentiates according to process and outcome, where, in this example, processes lead to outcomes. An innovation process is one which (a) can be effectuated on an individual, group or organisational level; (b) can be driven by available resources or an identified market opportunity; or (c) can be directed from the top down or bottom-up; and (d) where the source of innovation is either invented from inception-to-launch or integrated into an organisation through adopting and adapting an existing form of innovation; or (e) where the locus of innovation can either be initiated from within the organisation or can be externally initiated through the organisation's network, including suppliers. An innovation outcome could, as outlined in Figure 2, either (a) be in the form of a product, service or business model; (b) be of incremental or radical magnitude; (c) be benchmarked to the industry, market or organisation itself; or (d) be administrative or technical in type. The nature of innovation can be tacit or explicit, which can be a process as much as it can be an

outcome. The dimensions as described by Crossan and Apaydin (2010) were approached from a different perspective, however none of them are in direct contrast with Gopalakrishnan and Damanpour's (1997) consolidation of dimensions.

The innovation strategy is considered a "commitment to a set of coherent, mutually reinforcing policies or behaviours aimed at achieving a specific competitive goal" (Pisano, 2015, p. 46). An innovation strategy should be iterative and dynamic in order to incorporate interconnected pieces and collaborators (Adner, 2006; Dodgson et al., 2008). In order to devise and judge an innovation strategy, the innovation dimension should be clear and matched to the strategy (Crossan & Apaydin, 2010; Kraft & Bausch, 2016). The focus of this research study is specific to product innovation performance. In terms of product innovation performance, the dependent variable in this research, the innovation dimensions are specified according to the seminal theories of both Crossan and Apaydin (2010) and Gopalakrishnan and Damanpour (1997), at the granular level of:

- stage: an innovation-focus that has already reached the commercial stage of interacting with an end-consumer;
- level: organisational level, with a focus on outcomes and to a lesser degree process;
- types or outcome: technical, with a focus on product; and
- process: at an individual-group-organisational level with the direction being top-down as well as bottom-up.

2.1.2 Antecedents of innovation

According to Crossan and Apaydin (2010), the literature provides scattered, unconsolidated perspectives in terms of innovation antecedents. Jacobs (2013) drew on the work of Mintzberg (1979), Argyris and Schon (1978) and Child (1997), and concluded that the antecedents to innovation in an organisation were:

- the structural elements inherent in an innovative team or organisation (Mintzberg, 1979);
- the successful knowledge cultivation and learning interventions that have yielded innovation (Argyris and Schon, 1978); and
- the influential response-capacity to the external environment (Child, 1997).

Crossan and Apaydin (2010) systemically reviewed 27 years of organisational innovation literature and grouped what they referred to as the 'determinants of innovation' into three areas, namely leadership, managerial, and business processes. Crossan and Apaydin's synthesis of innovation determinants is captured in Figure 3.

Figure 3*Determinants of Innovation, Crossan and Apaydin, 2010*

Note. Reproduced from Crossan and Apaydin, 2010.

In Figure 3, Crossan and Apaydin (2010) assert that innovation outcomes are initially effectuated by leadership and this component of their assertion forms part of upper echelons theory. According to Engelen et al. (2014), upper echelons theory purports that the characteristics and behaviours of top leaders are echoed in their strategic choices and the subsequent organisational outcomes. The theory has implications for innovation outcomes, namely that leader characteristics translate into innovation outcomes (Crossan & Apaydin, 2010). The managerial levers that can be pulled to support innovation outcomes are outlined in Figure 3. The managerial levers provide the general scaffolding to build capacity for innovation. The presence of an explicit innovation strategy is directly linked to innovation outcomes and assists specifically in dovetailing innovation goals with strategically set objectives (Crossan et al., 2008). The specific structure and systems should be matched to specific organisational details such as size and nature of innovation output (Damanpour, 1991; Prange & Schlegelmilch, 2010). Organisational structure is defined as role-descriptions, responsibilities and decision-making parameters within an organisation (Rothberg, 1981). Resources are allocated on the basis of the aforementioned innovation strategy, organisational structure and processes in place (Crossan & Apaydin, 2010). Knowledge management and organisational learning is imperative in embarking upon and completing the innovation journey (De Jong & Den Hartog, 2007). Finally, managing organisational culture is considered paramount in enabling core innovation processes to commence (Rafailidis et al., 2017).

Lastly, the business process levers described in Figure 3, include the processes that enable innovation are outlined, from initiation phase to commercial phase. Guided by the three all-encompassing determinants as presented in Figure 3, the antecedents pertaining to the purview of product innovation performance in a grocery retail environment are identified as:

- innovation leadership;
- managing knowledge and learning;
- organisational culture for innovation;
- processes for innovation performance;
- cultivating innovativeness and perceived organisational innovativeness; and
- relationships.

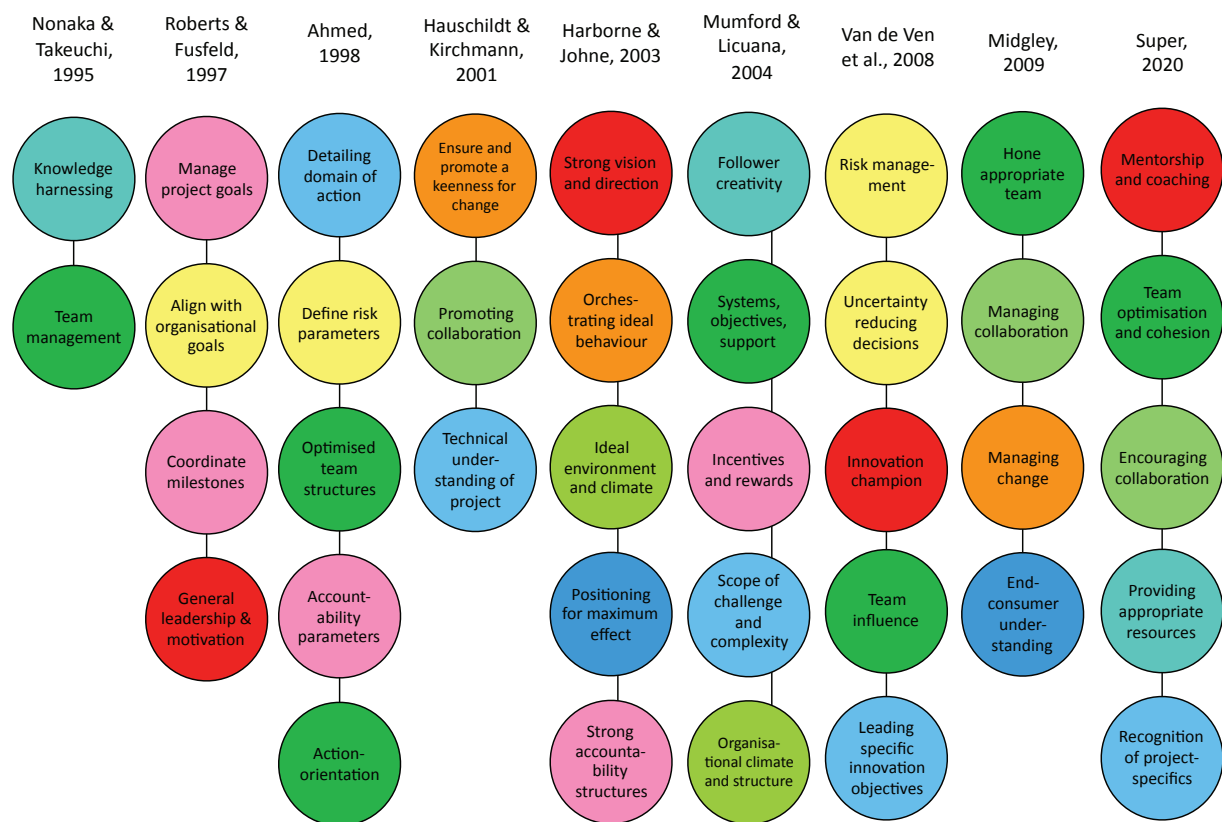
2.1.2.1 Innovation leadership

Leadership has been defined as “group processes, traits, behaviours, or as a tool for achieving goals” (Carreiro & Oliveira, 2019, p. 104). Vecchiotti (2011, p. 6) defined leadership as “a long-term, value-based process that encourages leaders and implementers to initiate actions that contribute to achieving common purpose, and to willingly make significant contributions in meeting mutually agreed to goals”. Arguments delineating the differences between leaders and managers are abundant. Loosely, leadership entails an “emphasis on motivation, empowerment and change” or, more specifically, “the choice of direction of activity and the establishment of a working environment that positively encourages and supports that activity”, whereas management is the “emphasis on control, compliance and routine” (Harborne & John, 2003, p. 119). In short, the leader influences and sets the scene, while the manager ensures effective delivery (Harborne & John, 2003). The intricate aspects of innovation require bespoke leadership and team behaviours, which are ultimately refined by both leaders and team members (Nadler & Tushman, 1997). The prominence of the leader as an innovation champion is brought to the fore in the literature (Rogers, 2002). Schön (1963, p. 84) pioneered the connection between successful innovation and the presence of an innovation champion, stating that “the new idea either finds a champion or dies”. Howell and Higgins (1990) reviewed personality characteristics and influencing strategies for innovation success. According to Sergeeva and Zanello (2018), innovation champions exhibit transformational leadership behaviours to a greater degree. Ashford and Detert (2015) supported the presence of an innovation champion in the context of team members that need to sell their ideas up the chain of command in order to get senior leadership to (a) buy-in to the innovation proposal and (b) champion their innovation proposal down-the-line. The leader acts as a cohering agent, ensuring all team members are supported (Van de Ven

et al., 2008), and a go-between to ensure organisational goals are met via the team members that collaborate in fulfilling these goals.

Innovation leadership is essentially about manoeuvring the innovation journey, through risk management, uncertainty reduction through solid decision-making, championing and influencing the team, and achieving innovation objectives (Van de Ven et al., 2008). It involves the honing of the appropriate team, managing collaboration, navigating organisational change and building 'in-roads' to the end-consumer (Midgley, 2010). Furthermore, the leader balances project goals with organisational goals, coordinates the team and project milestones, and provides leadership and motivation (Roberts & Fusfeld, 1997). Innovation leadership involves many players with "difficult-to-reconcile stakes and a multiplicity of interactions", which are simplified when the leader ensures strategy, structure, resources, learning and culture aligned with innovation goals (Hueske et al., 2015, p. 46). The relevance of a clear innovation strategy enables the innovation to follow in appropriateness thereby enabling the highest likelihood of success (Roberts & Fusfeld, 1997). The innovation leader provides strategic context to avoid wasted resources (Hueske et al., 2015).

Various authors shortlisted the critical innovation leadership components from their particular areas of expertise. In Figure 4 the contributions are consolidated and colour coded to mark similar aspects.

Figure 4*Consolidation and Consensus of Innovation Leadership Components*

Note. A consolidation and colour-coding of seminal innovation leadership authors, organised by author.

As is seen in Figure 4, there are overlapping aspects pertaining to innovation performance as postulated by these authors. According to Ahmed (1998), leading innovation requires: (1) detailing the domain of action; (2) defining the risk tolerance; (3) structuring involvement through organisational architecture and support systems; (4) establishing a strong sense of accountability; and (5) ensuring an action-oriented system, as opposed to one filled with bureaucracy. The higher the riskiness of the innovation in question, the more dependent teams are on the top leadership to forge an appropriate roadmap to achieve this innovation (Hambrick & Mason, 1984). According to Mumford and Licuana (2004), innovation leadership effects are moderated by the following conditions: (1) follower creativity; (2) work systems, including clear objectives, support for innovation, quality emphasis, participation emphasis, and innovation support; (3) incentives and rewards in leaders' control; (4) role details such as challenge and complexity; and (5) organisational structure and climate. An innovation leader sets the scene through the following salient aspects (Harborne & Johne, 2003): (1) exhibiting strong vision and direction; (2) orchestrating ideal behaviour; (3) establishing an environment and

climate to unleash proficiency; (4) positioning self for maximum effect; and (5) engendering a strong sense of accountability through example. Accountability, defined as knowing what you are responsible for, and is directly linked to innovation performance (Banu, 2018; Schillemans & Bovens, 2011). Super (2020) itemised the following leader aspects that enable optimal innovation: (1) providing mentorship and coaching; (2) ensuring team optimisation and cohesion; (3) encouraging collaboration; (4) enabling through appropriate resources; and (5) recognising that each project has specific considerations and that a one-size-fits-all approach will not lead to optimal innovation success. Three areas that require strong leadership to enable great innovation, which can be fulfilled by three leadership modes (Hauschildt & Kirchmann, 2001), are as follows:

- Power: ensuring and promoting a keenness for change
- Process: using influence to illustrate how the innovation equips and suits the business, and generally also promoting horizontal and vertical collaboration
- Technology: deepening the understanding pertaining specifically to the project or product at hand and the necessary technology or technical aspects involved

An aspect that seems to be omitted by the previously mentioned authors on innovation leadership is the matter of knowledge management. Leading and managing the knowledge workers within an organisation is considered a critical human resource management mechanism to achieve an increase in successful innovative solutions (Chen & Huang, 2009). Managing human capital in an organisation goes hand-in-hand with knowledge-harnessing (Birasnav et al., 2011). A future frontier is managing knowledge and strategy to enable competitive intelligence and thereby maintaining the competitive lead (Nonaka & Takeuchi, 1995).

In Figure 5, shaded in red, are core leadership aspects such as strong motivation, mentorship, coaching and the leader playing the general leadership role and innovation champion (Harborne & Johne, 2003; Roberts & Fushfeld, 1997; Super, 2020; Van de Ven et al., 2008). These elements are also found in leaders with high transformational leadership attributes, and are discussed in greater detail in Section 2.2. Figure 5 itemises the groups of aspects pertaining to innovation leadership.

Figure 5*Grouped Elements Involved in Innovation Leadership*

Note. A consolidation and colour-coding of seminal innovation leadership authors, organised by similar innovation leadership aspect.

Figure 5 further streamlines aspects of teams, depicted in various shades of green. Dark green represents aspects of influence, optimisation, cohesion, management, structuring and appropriateness of teams (Ahmed, 1998; Birasnav et al., 2011; Chen & Huang, 2009; Midgley, 2010; Nonaka & Takeuchi, 1995; Super, 2020; Van de Ven et al., 2008). What is clear from the grouping in Figure 5 is that innovation leadership contains general leadership aspects (red shading), optimal teams (green shading), the management of risk and uncertainty (yellow shading), accountability processes and project-specific concrete structures to ensure completion (pink shading), and project-specific grasp, objectives, route to commercial success, and knowledge harnessing (blue shading). In short,

innovation leadership involves a general orientation and approach (red and green shading), which flows to specific and detailed components depicted in pink, yellow and blue in Figure 5.

2.1.2.2 *Managing knowledge*

Knowledge is regarded as a significant determinant in achieving innovation (Nonaka & Takeuchi, 1995). Knowledge management is the starting point of most innovation and involves the searching and identifying of ideas and knowledge relating both to market segment and technology (Cantarello et al., 2013). Innovation involves a primary ability to recognise opportunities and connections and then boasting the adequate knowledge and skills to turn these into successful innovation (Tidd & Bessant, 2020). Knowledge management involves a spectrum of critical aspects, especially the transference of data into information and information into knowledge, tailored to each organisation's specific nature and context (Kruger & Johnson, 2010). Knowledge management systems are often confused with information and communication technology (ICT) systems (Kruger & Johnson, 2010). According to Prusak (2001), the concept of knowledge management has original roots in information management, quality systems and human capital.

Organisational knowledge refers to the "capability of a company as a whole to create new knowledge, disseminate it throughout the organisation, and embody it in products, services, and systems", and is considered the major precursor to innovation performance (Nonaka & Takeuchi, 1995, p. 3). Knowledge can emerge in varying degrees of order, and may be collected through experience, values, and insights (Birasnav et al., 2011). The existence of knowledge can occur on an individual, group, organisation and industry level (Nonaka & Takeuchi, 1995), to name a few pertaining to this research study. The basic premise of knowledge management is that knowledge can be shared (Nonaka & Takeuchi, 1995), withheld (Pearce, 2007) and developed through learning (Super, 2020).

Knowledge can be shared in an explicit or tacit fashion (Sjoerdsma & Van Weele, 2015). Explicit knowledge appears in a structured and documented form and is widely shared throughout the organisation, while tacit knowledge is delivered through behaviour and perception and exists in the minds of employees (Birasnav et al., 2011). The origination and application of knowledge originates in "the minds of the knowers" (Davenport & Prusak, 1998, p. 5). The implicit nature of some forms of organisational knowledge emphasises the value of the knowledge workers who own, share and integrate their know-how in an organisational setting (De Jong & Den Hartog, 2007). Knowledge management requires the skillful blending of individual competence with organisational capabilities to achieve economic performance (Lundvall & Nielsen, 2007). A significant role for a unit leader is to transform and amplify the human capital of individual team members (Eckardt et al., 2020).

Organisational survival depends largely on a company's rate of learning - which should occur at a faster pace than external changes (Caccia-Bava et al., 2009; Tohidi & Jabbari, 2012). Super (2020) asserted that learning is a key starting point; however, the learning must be developed in order to achieve innovative outcomes. According to Kim et al. (2020), organisational learning is a precursor to problem-solving, change and innovation. Super (2020) asserted that individual learning and absorption enables optimal knowledge integration and forms the building blocks of innovation success. Therefore, cognitive ability, and harnessing the individual and collective knowledge base, is a crucial aspect of successfully achieving product innovation goals (Nonaka & Takeuchi, 1995). Absorptive capacity is an imperative for innovative organisations, regardless of their size. This capacity refers to an organisation's ability to utilise historic knowledge, as well as external knowledge, assimilated for own commercial performance (Fagerberg, 2005; Tsai, 2009), and therefore holds relevance for both internal and external relationships, its leadership, and how to advantageously convert knowledge for innovation performance. The more diverse the team, the more diverse the knowledge inputs from each team member (Czarniawska, 1997). Team diversity can be in the form of diverse disciplines, such as commercial, technical, or new product development (Super, 2020). A wide range of inputs or vantage points regarding a particular innovation challenge, enables essentially extensive stress testing done within the organisation (Talke et al., 2010).

A number of authors stress the merit of knowledge cultivation, sharing and integration, as part of the innovation journey (Kim et al., 2020; Lundvall & Nielsen, 2007; Nonaka & Takeuchi, 1995; Pearce, 2007; Super, 2020). Knowledge sharing can occur through communication, setting clear goals, establishing trust (Eckardt et al., 2020), networking, documenting and capturing, organising, problem-solving, assisting others, learning from others, and new skills development (Kim et al., 2020). The role of the leader in managing knowledge is viewed as indispensable (Birasnav et al., 2011; Chen & Huang, 2009), and is ideally done by creating conducive conditions and facilitating specific interventions (Eckardt et al., 2020; Nonaka & Takeuchi, 1995). Powell et al. (1996) defined learning as a social construction process that occurs in the "context of a community" (p. 347), and that the learning is very closely associated with the conditions of learning, thereby elevating the task of the leader to ensure the learning environment is appropriate.

2.1.2.3 Organisational culture for innovation

Innovation is closely connected to organisational culture (Kelley, 2001). Specifically, a strong organisational culture is associated with strong innovative behaviour (Phelan & Young, 2003). Culture refers loosely to particular attributes shared by a group of people (Georgianna, 2007). Culture is a "cohesive set of values, attitudes and beliefs that emerge in adaptation to the environment" (Burgess

et al., 2002, p. 31). Culture can also refer to the “general process of intellectual or social refinement” or, in its wider sense, to “a community’s overall way of life, including its patterns of work and recreation, morality, intellectual practices, aesthetics, belief, economic production, political power and responsibility” (Robinson, 2001, p. 167). Organisational culture is generally formed by a considerable number of events over a significant amount of time and can be likened to a fossil bank, where layers upon layers of stories of occurrences and intrigues become mythologised within the organisation (Perlow & Weeks, 2002). Culture is the product of interactions and collective sensemaking of self and others (McLaughlin et al., 2002). Despite a flux of people - for example new people joining an innovation team - culture remains relatively constant and is specific to a team and organisation (Super, 2020). An impactful and positive organisational culture is defined as the by-product of high consensus among stakeholders along a vertical and horizontal spectrum (Lee & Yu, 2004). According to Jelinek and Schoonhoven (1990), culture is regarded as the social glue and fundamental in the process to achieve innovation performance. Cameron and Quinn (2011) placed organisational culture at the core of organisational performance. The innovative value creation process relies largely on employee commitment, expertise and knowledge (Ahmed, 1998; Chen & Huang, 2009; Subramanian & Nilakanta, 1996).

It is essential to create a match between the specific innovation strategy and the type of organisational culture that will enable innovation success (Khan et al., 2009; McLaughlin et al., 2002). Some of the levers that can be pulled to optimise the work culture include the calibration of the physical work environment, the introduction of an incentive structure, and enhancing the complexity and style of supervision (Khan et al., 2009; Prange & Schlegelmilch, 2010). Adner (2006) advocated that the entire innovation ecosystem be aligned with the innovation strategy. The necessity for organisational leaders to assist team members to ascertain which innovation metrics to follow, is closely linked to innovation success (Christensen et al., 2008). For example, if employee incentive structures are deliberately connected to product improvements, the employees are less likely to innovate in a disruptive or exploratory fashion for fear of failure (Prange & Schlegelmilch, 2010). If the innovation strategy and mandate is to achieve riskier and more disruptive innovations, then removing adverse repercussions for failure may support team members to achieve success (Mumford & Licuana, 2004). In some organisational contexts, an improvisational and antihierarchical culture enables fast decision-making, which is especially critical when time is of the essence (Senor & Singer, 2011). Senor and Singer (2011) studied the organisational culture in the Israeli military, in particular the Talpiot programme, where recruits are prepared for military innovations. Since the inception of the unit in 1979, it has been governed by a strong culture of antihierarchy, improvisation, empowerment, confidence-instilling with clear boundaries, and high accountability for responsible decision-making (Avidor, 2012; Senor

& Singer, 2011). In a different context, a culture of support and encouragement for innovation may lead to strong innovation output (Sarros et al., 2011). Pixar, the computer animation motion picture company, has a unique track record when it comes to innovation, where its entire creative process is created by internal team members (Catmull, 2008). The flat organisational structure at Pixar, combined with a strong creative culture and highly successful innovation outcomes, is attributed to “the way people at all levels support one another [and are] fully invested in helping everyone else turn out their best work” (Catmull, 2008, p. 69). Organisational performance and performance literature is in agreement that a supportive culture, flexibility in structures and favourable leadership all contribute to high-performance and successful innovation prevalence (Prange & Schlegelmilch, 2010; Tohidi & Jabbari, 2012; Vroom, 1995). The need for the innovation typology, strategies and operational elements to be matched with the desired innovation outcome is imperative, since a flat structure may only apply to certain organisations (Prange & Schlegelmilch, 2010).

The innovation process is not always linear and predictable (Van der Ven et al., 2008). The value that can be extracted from innovation failures or detours can often provide valuable learning (Hueske et al., 2015). While it is a general organisational goal to strive for efficiency and efficacy, often product innovations require the embracing of experimentation, regardless of the risk of failure (Terziovski & Guerrero, 2014). Celebrating ‘noble failure’ is at the core of telecommunications company Motorola’s innovation culture (Hammer & Champy, 1993). ‘Noble failure’ is juxtaposed with ‘certain success’, where the primary goal is to maintain strong standards and set out for excellent execution (Hammer & Champy, 1993; Torrisi et al., 2018). When organisations strive for constant perfection, this often creates a timidity in employees (Sheehan, 1999). In cases where failure is treated as a source of shame, this begets a risk-averseness among team members (Iyer & Davenport, 2008). According to Torrisi et al. (2018), a culture of noble failure is appropriate where high risks need to be taken to achieve positive innovation outcomes. In cases where the innovation goals remain unmet, the innovation team should resort to celebrating the failure (Sheehan, 1999) because of the learning that can be extracted from product failure (Terziovski & Guerrero, 2014). The learning that can be gained from innovation failure is essential to building future competitive advantage (Leal-Rodríguez et al., 2015). According to Machajewski (2017, p. 5) “speaking about failure and making its reporting safe is a key to an innovative culture of a company”. High levels of demoralisation can ensue in cases where innovation teams fail to perform (Falout et al., 2009). Appropriate leadership is required to manage the boundaries of failure (Bouhali et al., 2015). Innovation failure can be caused by a variety of factors including a lack of resources, negligence, and technical errors, necessitating leadership to contextualise and assist in resolution (Lobo & Samaranayake, 2020).

Innovation outcomes get thwarted, and inertia sets in, when the status quo is maintained and any form of newness or change is avoided (Schumpeter, 1982). Team members often resist adopting a new technology for fear of market punishment or for fear of not achieving success (Christensen et al., 2008). Not only are agility and openness to change associated with the forging of innovative outcomes, these attributes are also connected to leadership, in particular the transformational leadership role in achieving team buy-in or embracing change (Penava & Šehić, 2014). Individuals with strong self-leadership orientation are able to navigate through organisational shifts with proactive responses to change (Neck, 1996).

2.1.2.4 Processes for innovation performance

Organisations that know when to exploit existing capabilities and when to explore newness are referred to as ambidextrous (Ojha et al., 2018). Pursuing ambidexterity in the context of innovation means pursuing both explorative and exploitative innovation (Chang & Hughes, 2012). Exploitative innovation is juxtaposed with explorative innovation, where the former involves refining of existing technologies with “slight changes in status quo”, while explorative innovation involves higher risk and higher reward and requires the leadership of a transformational leader to steer through unpredictability (Chen et al., 2019, p. 86). Cantarello et al. (2013) added that explorative innovation involves newness or something yet to be experienced. Organisations that possess ambidexterity can successfully innovate around utilising new knowledge, broadened knowledge, new opportunities and existing core knowledge (Cantarello et al., 2013). The tension between explorative and exploitative innovation relates to the innovator’s dilemma, which is described as ‘remaining competitive today, while preparing for the future’ (Chang & Hughes, 2012). This essentially entails “how to maintain your existing business, your ‘installed base’ - the existing customers, revenue stream, technological competencies and other assets ... - long enough to buy the time needed to adapt to a new model at the same time” (Pietersen, 2002, p. 16). To support the notion of a dilemma, Kaplan and Norton (1996) cast innovation as an essential internal process, where innovation objectives often compete with operations objectives. A business can rest on current product innovation success and in the process overlook future-proofing by investing in future product innovation (Ahmed, 1998). Tension exists between commercial success in the present versus gearing for the future, which may involve uncomfortable exploration in the sense that the commercial path is not as clear and reliable (Cantarello et al., 2013).

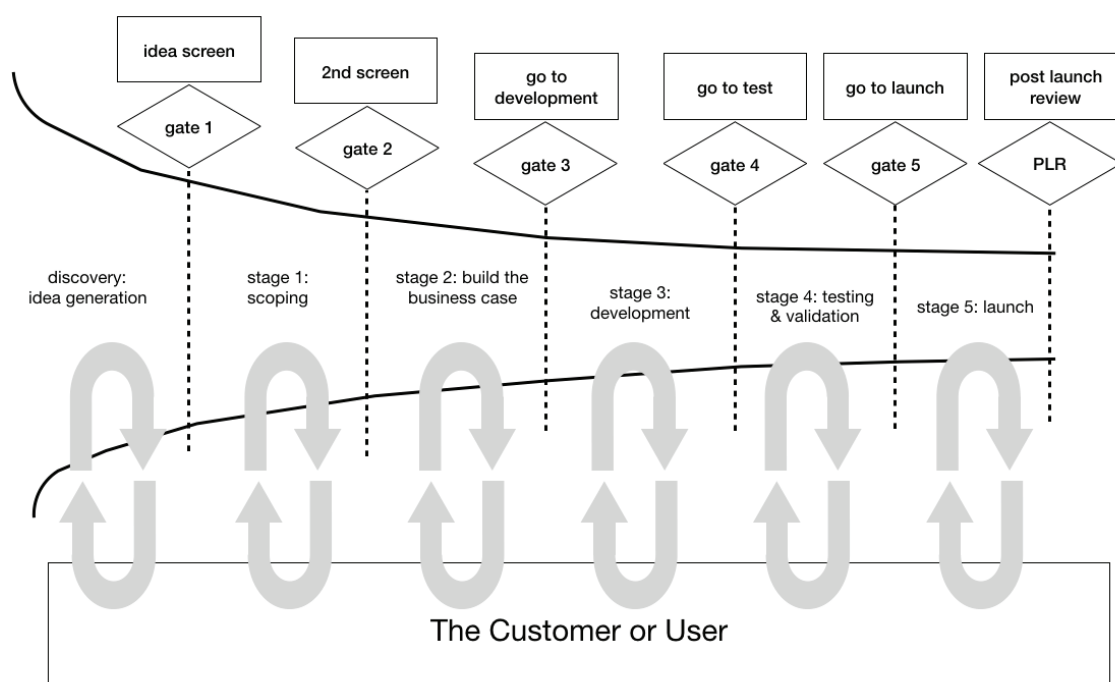
There are basic frameworks to adapt to the specificity of a particular innovation mandate to increase the likelihood of achieving positive outcomes (De Jong & Den Hartog, 2007). However, the design of formal generalised processes to enhance innovation remain challenging (Van der Ven et al., 2008).

According to Van der Ven et al. (2008), the unpredictable innovation journey requires agile leaders, processes and teams, specifically tailored to the particular innovation goals. Caldwell and O'Reilly (2003, p. 500) advocated non-routine responses to the innovation journey in order to boost innovativeness, while arguing that “formal extrinsic controls” diminish the innovative behaviours that effectuate the innovation.

Robert Cooper’s Stage-Gate® system consists of a series of stages, typically five; each stage prescribes the key tasks and best practices for the project team and is considered the master plan for efficacy and efficiency in product innovation (Cooper, 1990; Jiménez-Zarco et al., 2006). The Stage-Gate® is both a conceptual and operational roadmap for new product development to move from the idea phase to launch phase and beyond (Cooper, 1990). It follows a formal development process that enables context and accountability to achieve the innovation (Jelinek & Schoonhoven, 1990). Figure 6 depicts Cooper’s Stage-Gate® system from the initial discovery or ideation phase through to the final stage five launch phase.

Figure 6

The Five Stages in the Typical Idea-to-Launch Stage-Gate® System



Note. Reproduced from Cooper, 2011.

The premise of the system in Figure 6 is constant alignment with the end-user or end-customer; every stage needs to verify that the end-customer is considered in each iteration. Each stage involves further information gathering and elimination of uncertainties. The gate of each stage implies a “go or kill

decision point” or a “quality-control checkpoint” where the team converges to agree to proceed or not (Cooper, 2011, p. 101). Ahmed (1998) asserted that there are three generic phases or stages to the innovation process, namely:

- Idea generation (inhibitors to move to second phase include aspects like unfeasibility and incompatibility)
- Company-specific stage-gate system that indicates good fit and success factors
- Implementation in the form of commercialisation

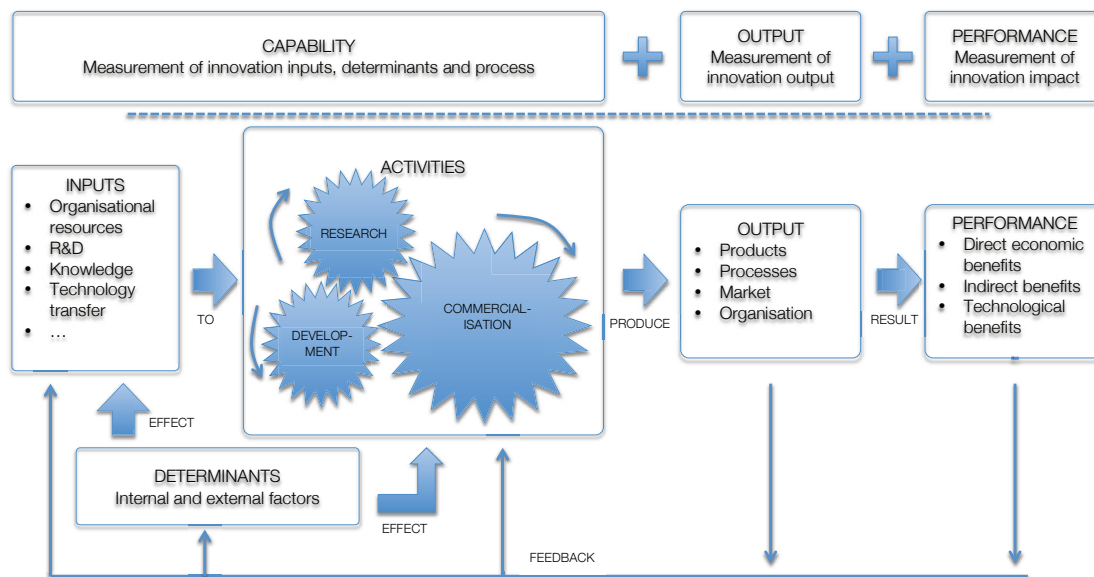
On considering the generic stage approach, Van der Ven et al. (2008, p. 4) argued that the innovation journey is more complex and ambiguous, because as a “living system” it is not easily distilled to foolproof chains of causation and a linear underscore.

Innovation tends to be a very expensive exercise for organisations, and there is thus a need for robust measurement to manage accountability (Montero et al., 2017). In addition, the measurement of innovation performance enables learning, motivation, and the celebration of innovation success with implications on efficacy (Behn, 2003). In 2008, the Boston Consulting Group conducted a survey which reported that 74% of executives believed that the measurement of innovation performance is as critical as measuring the performance of core business operations (James et al., 2008). Of these 74% of participants, only 43% reported that innovation performance measures were in place.

According to the research of Godin (2002), initial product innovation performance measurement in the 1950s revolved around registered patents and R&D expenses. However, the flaw in measurement of patents was recognised as invention-centric. Without organisations converting innovation into profit, the lack of market response can reduce the product to a mere invention (Hannachi, 2015). Formerly, product innovation performance was measured through overall organisational performance (Alegre & Chiva, 2008). Organisational performance as a metric for innovation success is flawed in that low performance may occur for a variety of reasons, for example, lack of cognitive capacity, insufficient resources and motivation issues (Samad, 2012). To avoid the confounding effect of other organisational activities that contribute to level of innovation performance, overall organisational performance cannot be used as a measure for innovation performance (Alegre & Chiva, 2008). The 1980s and 1990s marked the time when measurement of innovation was mostly along the lines of overall financial performance of the organisation, thereby increasing potential confusion with other contributing factors (Jiménez-Zarco et al., 2006; Samad, 2012). Christensen et al. (2008) asserted that a heavily weighted dependence on financial tools to determine the likelihood of successful innovation could unfairly leave great ideas on the cutting room floor. Christensen et al. (2008, p. 100) stated that “the projected value of an innovation must be assessed against a range of scenarios, the most realistic

of which is often a deteriorating competitive and financial future". The founding of the US National Science Foundation (NSF) and Organisation for Economic Cooperation and Development (OECD) contributed substantially to the development of innovation performance measurement instruments (Alegre et al., 2006; Gault, 2013). Initially, researchers at both organisations adopted an *innovation outcomes* approach, involving the identification and count of commercialised technological innovations and the concomitant characteristics of these firms (Alegre et al., 2006). Specifically, the performance measurement of: (1) first-to-commercialise; and (2) level and rate of increase of products and processes were used as a metric to confirm success. As time passed, both the NSF and OECD recognised the need to survey overall innovation activities, not only outcomes (Alegre et al., 2006).

An in depth understanding of these multidimensional and particular innovation dynamics are regarded as a foundation of product innovation performance; the strategic component is salient for measurement (Eren, 2019). Broadly considered, innovation involves the input of knowledge capital through innovative activities with the end goal of achieving innovation outputs, be that the achievement of new products or the improvement of the quality of existing products or systems, according to Cirera & Muzi (2020), and, in order to ascertain success, all the inputs as well as outputs should be measured. According to Banu (2018), the rule of thumb in measuring innovation success is developing key performance indicators (KPIs) in tandem with the steps involved in the process, in order to ensure that objectives are met. Increasing specificity in measuring product innovation performance creates opportunities to manage innovation outcomes more effectively (Alegre et al., 2006; Samad, 2012). Edison et al. (2013) distilled a model for innovation measurement, as outlined in Figure 7.

Figure 7*Innovation Measurement Model*

Note. Reproduced from Edison et al., 2013

In Figure 7, the organisation's *capability* component includes specific innovation inputs in combination with research, development and commercialisation activities. The *output* component measures product, process, market and organisational specifics and the *performance* component reviews the impact of the innovation, in the form of direct as well as indirect benefits. According to Hannachi (2015), Choon and Lee (2019) and Edison et al. (2013), the measurement of performance impact is crucial; however, the other components also need consideration in order to contextualise the performance findings. The multidimensional factors that contribute to innovation performance are considered salient because they shed light on which culminating aspects contribute to success, and which potentially do not. Montoya-Weiss and Calantone (1994) conducted a meta-analysis of 47 product innovation performance-related studies and drew a conclusion on the most salient aspects that should be included:

- Strategic factors: product advantage, technological synergy, marketing synergy, overall strategy, company resources
- Development or process factors: technical activities, marketing activities, senior management support, speed to market, costs, financial analysis
- Market factors: market competitiveness, market potential, launch environment
- Organisational factors: internal and external relations, and specific organisational factors

2.1.2.5 Cultivating innovativeness and perceived organisational innovativeness

According to Hurt et al. (1977), 'innovativeness' is a general attribute that holds at its core a willingness to change. Crawford and Di Benedetto (2003) differentiated between innovation and innovativeness: the former being the outcome of activities and the latter possessing the openness to new ideas and solutions. Goldsmith and Hofacker (1991) reported a positive correlation between innovativeness and risk-taking. Innovativeness is considered the forerunner of actual innovation performance (Baertsch, 1991; Eisele, 2017; Hurt & Teigen, 1977; Johnson et al., 1998). Innovativeness involves the balancing of risk and resource deployment in the non-linear innovation path (Hurt et al., 1977). The degree to which an individual or organisation is willing to engage in new ideas, experimentation and creative processes determines the level of innovativeness (Neck et al., 1999). Innovativeness is the opposite of inertia (Fagerberg, 2005). Singh (2011) described organisational innovativeness as a company's capacity to introduce new ideas, processes and products. Innovativeness is critical within a team; it refers to orientation, vigour and prioritisation for innovation, but not yet a focus on the conversion into a market-responsive product (Lukoschek et al., 2018).

Innovativeness is intrinsic to an organisation's culture, with a direct relationship with employee fervour to develop new ideas or fashion new ways of solving challenges (Hurley & Hult, 1998). 'Innovative work behaviour' is defined as the generation, introduction and application of ideas, processes, products and procedures, for the benefit of any part of the organisation, by the employees in the organisation (De Spiegelaere et al., 2014). Innovative behaviour is improved when a leader successfully enables employees to challenge the status quo (Camelo-Ordaz et al., 2012; De Jong & Den Hartog, 2007). Innovativeness or innovative work behaviour is promoted through leadership, follower problem-solving, work-group relations, fairness, supervisor supportiveness, self-leadership, job skills, and work engagement (Agarwal et al., 2012). Innovativeness has a substantial impact on organisational performance (Camelo-Ordaz et al., 2012; Porter, 1990; Schumpeter, 1982).

Innovativeness is driven by:

- communication freedom and ideas across rank or level (Amabile & Khaire, 2008; Catmull, 2008; Iyer & Davenport, 2008; Senor & Singer, 2011);
- a safe environment for ideas to be offered (Catmull, 2008) and a high ratio of implemented ideas (De Jong & Den Hartog, 2007);
- cultivation of a risk-averse culture (Iyer & Davenport, 2008);
- exposure to diverse perspectives (Amabile & Khaire, 2008) and feedback (De Jong & Den Hartog, 2007);
- prioritised innovation by building it into job descriptions (Iyer & Davenport, 2008);

- balance between “stimulating innovative behaviour and ensuring short-term effectiveness and efficiency” (De Jong & Den Hartog, 2007, p. 58);
- encouraged and enabled collaboration (Amabile & Khaire, 2008; Iyer & Davenport, 2008); and
- close associations with occurrences and events in the external environment (De Jong & Den Hartog, 2007) and academic community (Catmull, 2008).

The main drivers of innovativeness involve: (1) infusing team members with perspective and knowledge; (2) creating a specific organisational culture that manages risk and prioritises collaboration; and (3) accountability and empowerment. According to Subramanian and Nilakanta (1996), prioritising innovativeness through leadership, deliberate strategy, and organisational culture is what differentiates truly innovative organisations from others.

The literature on perceived organisational innovativeness remain sparse. Perceived organisational innovativeness is the perception, held by internal team members, of the willingness of the organisation as a whole to adopt new ideas (Williams, 2013). The relevance of perception of innovativeness to this research study is that it provides the prospect of organisational innovativeness, or willingness for newness, which in turn is crucial for innovation performance. Richmond and McCroskey (1979) studied and positively correlated perceived organisational innovativeness and employee satisfaction. They were also able to establish a positive association with employee satisfaction and perception of own innovativeness. Hurt et al. (1977, p. 63) also pointed to ‘social desirability’ as a real aspect where “participants might agree or disagree to items so as to describe themselves in favourable, socially desirable terms in order to achieve the approval of others”.

Perceptions of innovativeness is relevant to this research study since it provides an indication of likelihood of actual innovation success. In alignment, the ‘pygmalion effect’ proposes personification and that there is a positive correlation between high expectations and high-performance (Eden, 1990; Eden & Ravid, 1982; Rosenthal, 2002), while the converse, dubbed the ‘golem effect’, purports that low expectations are often correlated with low performance (Reynolds, 2007).

2.1.2.6 Relationships

Innovation is accomplished by a network of people and based on relationships, rarely by individuals operating alone (Van de Ven et al., 2008). The advantages of casting a wider net in terms of innovation involvement, include information, status and resource advantages (Powell & Grodal, 2005). Innovation involves social interactions with varying degrees of relationship complexity (Lu & Sexton, 2006). In the context of innovation, the relational ties can range from weak to strong (Granovetter, 1973). The more complex or competitive the innovation playing field, the greater the reliance on

specialised knowledge exchange, and therefore the need for strong close relational ties (Hughes & Perrons, 2011). Owing to the fact that the creation and maintenance of relationships require significant resources and time, it is not possible to form strong ties with all team members, be they internal or external (Goffin et al., 2006; Powell & Grodal, 2005). For reasons of resource limitations, some relationships or partnerships are short-term, some long-term, and some are long-term with no end (Goffin et al., 2006).

The types of relationships that are forged in a grocery retail context involve: (1) internal relationships with employees and potential consultants; and (2) external relationships with suppliers, industry experts or partners and customers or end-consumers. Both internal and external relationships form a strong cornerstone in achieving innovation success, primarily through the varied knowledge that each party contributes (De Clercq et al., 2011). Building cross-company relationships offers “privileged access to knowledge, resources, technologies, and markets that can be leveraged to create new value” (Hughes & Perrons, 2011, p. 164). The knowledge of internal team members and the ability to enable their knowledge to blend with the innovation project and organisational goals is a critical part of the innovation process (Li et al., 2014). Internal team alignment and relational strength is strongly connected to increased innovation performance (Kissi et al., 2012). The quality of knowledge exchange and blending is higher where relationships are strong (Li et al., 2014). According to Zhang et al. (2015), relationships or partnerships are social processes that are governed by social exchange theory that specifically entails a norm of reciprocity. Especially where innovation partners are external, the trading of know-how depends on relational security and involves developing a shared language (Von Hippel, 1988). Suppliers and end-consumers are considered “most sought-after innovation partners” (Ren et al., 2015, p. 103). Where external relationships with suppliers and end-consumers are transparent with open communication channels, both the supplier and end-consumer voices provide access to assets and business ideas, unlikely to be achieved solo, thereby enriching the company’s knowledge pool (Ren et al., 2015). An organisation’s product innovation can often be advanced by leaning on: (1) supplier knowledge, since this different vantage point generally comes with more specific know-how; and (2) the incorporation of the end-user’s voice, since satisfying end-consumers is considered a litmus test of innovation success (Tsai, 2009). The substantive supplier-advantages of an open innovation relationship is less clear in the literature (Zhang et al., 2015). According to Chang (2017), suppliers benefit in an economic sense; however, other benefits remain unclear in the literature. A strong correlation has been found between supplier relational quality, knowledge transfer and new product development performance (Sjoerdsma & Van Weele, 2015). From the retailer’s perspective, the advantages of well-managed, high-quality supplier relationships include: (1) development time efficiency; (2) cost reduction in development and actual product; and (3) product quality (Johnsen,

2009; Van der Valk & Wynstra, 2005). Relationships or partnerships involve: (1) a knowledge exchange to enable product development; (2) responsiveness in terms of logistics - for example, the dovetailing of supply-chain activities and production planning; and (3) sharing of resource-information (Vanpoucke et al., 2014). Powell et al. (1996) added the aspect of risk-sharing as a salient feature in balanced partnerships. Risk assessment is closely associated with a prediction of the expected return on invested time and resources (Hughes & Perrons, 2011). Specifically pertaining to innovation, an assessment of trustworthiness, control, complexity of tasks and financial gain is considered in the risk evaluation process (Powell et al., 1996).

According to Pisano (1990), the degree to which innovation leans on external support depends on the specificity of the organisation and industry. Supplier involvement in innovation is seen as increasingly essential for grocery retail organisations owing to short product life cycles and competition-intensity (Wagner & Bode, 2014). Pisano (1990) concurred that organisations that are confronted by broad and rapid changes find great value in procuring external support to achieve innovation.

2.1.3 Grocery retail product innovation

High levels of accountability, in-depth learning (Senge et al., 1994), and synergistic collaboration are some of the keys to organisational performance (Goold & Campbell, 1998). The ambitious targets to be met in a contemporary competitive organisation requires “superb internal business processes” and a reliance on competent teams to accomplish these processes (Kaplan & Norton, 1996, p. 143). Pietersen (2002) concluded that ‘process excellence’ and ‘people management’ are the two elements that deliver high-performance. The three general determinants of retail performance excellence include: (1) strategy; (2) mobilising the appropriate resources; and (3) employing a process or “tactical road map” to drive market growth (Cooper, 1998, p. 7). Owing to the fact that the speed of change has surpassed the speed of anticipation (Durmusoglu & Barczak, 2011; Maltz et al., 2001; Pathirage et al., 2007; Pérez-Bustamante, 1999; Ross et al., 2005; Stashevsky et al., 2006), organisations that has short product life cycles with demanding end-consumers, high levels of competition and price sensitive retail landscapes, require a rapid response in innovation solutions (Gao et al., 2015; Sipos et al., 2014).

Innovation in the grocery retail sector can occur in the following five areas: product, process, marketing, organisational, and technology. Specifically in the grocery retail sector, most prolific innovation occurs in areas of product development, product ranging or assortment, information technology and aspects regarding setting, which refers to merchandising and layout (Albors-Garrigos, 2020). While this research study specifically focuses on product innovation performance, there are

many components that enable the innovated products to thrive once the innovation processes are complete. For example, how the products are procured, distributed, marketed, and merchandised at store level to optimally attract end-consumers to purchase the product (Cadwallader et al., 2010; Hennig-Thurau et al., 2006).

Product innovation performance involves a combination of theoretical conception, technical invention and commercial exploitation (Trott, 2012). Product innovations are often described as vast and may include “technical design, research and development, manufacturing, management and commercial activities” (Alegre et al., 2006, p. 334). The end-goal of product innovation is “transforming business opportunities into tangible products and services”, be that new or improved (Cormican & O’Sullivan, 2004, p. 820). Product innovation is therefore considered to be the initial idea, the idea’s development into a viable product, and commercial phase where the product is presented to an end-user or end-consumer. Conceptually, ‘product innovation’ and ‘new product development’ are often used interchangeably (Prabowo et al., 2020). However, product development only graduates to product innovation when commercial viability and success is achieved (Iyer et al., 2006). Gee (1981) asserted that product innovation performance is defined by novelty and usefulness to the target end-user. As echoed by Thomas (1993, p. 7), product innovation is defined as a tangible output that satisfies an end-consumer’s need. The manifestation of product innovation can be in terms of structure, technology, features and performance (Edison et al., 2013). Innovated products can manifest along a wide range, varying from products with small improvements to products that are very different from those that the end-user knows (Füller & Jonas, 2013). For example, a successful product innovation can range from changing the packaging format or size (Mitchell et al., 2018) to changing the texture (Albors-Garrigos, 2020) to establishing a new product category all together (Anselmsson & Johansson, 2009). Prange and Schlegelmilch (2010) defined brand new products as radical, disruptive innovation that requires the exploration of new territory, with a diminished focus on result-measurement and allowing more ‘blue-sky’ iterations. The notion of disruptive innovation ties in with a modern fallacy that unless it is innovation with a disruptive and pioneering lustre, it is not considered innovation (Gallo, 2011). As long as the end-user views the innovation as useful, it is considered ‘innovation’ (Thomas, 1993). According to Blois (1985), reactive product development in the grocery retail industry generally occurs in the absence of strategy and involves a degree of imitation of what a competitor is innovating. The awareness of competitor products forms a key part of benchmarking. It is recognised that benchmarking, defined as “the art of finding out, in a perfectly legal and above-board way, how others do something better than you do - so you can imitate - and perhaps improve upon - their techniques” (Main & Jacob, 1992, p. 102), is an essential component of the innovation journey (Main & Jacob, 1992).

Product innovation is also defined as the improvement of existing products and ranges (Amabile et al., 1996). Prange and Schlegelmilch (2010) referred to smaller product improvements as incremental modifications that involve exploitation of current competencies, products, technologies or paradigms. Incremental product innovation typically involves “product line extensions or adding modifications to existing platforms and products”, and are considered great contributors to long-term firm survival and substantial contributors to large market share (Iyer et al., 2006, p. 374). The majority of product innovation initiatives are achieved in an incremental fashion (Höyssä & Hyysalo, 2009). Most innovations in the grocery retail industry are incremental and involve open collaborative innovation (Albors-Garrigos, 2020). Campbell et al. (2005) argued that product innovation improvements should be called ‘sustaining innovation’, and improvements can be both incremental and exponential, and typically occur in the areas of cost and processes.

Performance in product innovation contributes directly to overall organisational success, which highlights its salience in terms of its management (Cormican & O’Sullivan, 2004). As in any other industry, the grocery retail environment has its own specific elements, which affect achieving success in product innovation performance.

2.1.3.1 Product innovation performance and grocery retail dynamics

The contemporary grocery retail setting involves increased local and global competition and disruption in channels to end-users, to the degree that retailers are under severe pressure to create superior value and a sustainable competitive advantage (Ganesan et al., 2009). Innovation performance is positively related to competitive advantage (Alegre & Chiva, 2008). A sustained competitive advantage is created when products meet their market in an appropriate, efficient and timely manner (Nonaka & Takeuchi, 1995; Prahalad & Hamel, 1990). The ideal timing of product launches is unique to the industry context and circumstances (Klingebiel & Joseph, 2015). Launching a product too early can be detrimental if the market is not yet prepared for the product in question (Pansera & Owen, 2018). Often, a fast second-to-market or even a slow third-to-market can outperform the first-to-market (Teece, 1986). The term ‘diffusion’ in the context of innovation was first coined and elaborated upon by Rogers in 1962 (Rogers, 2003). Innovation diffusion is generally described as the degree to which an innovation is perceived to be useful or advantageous (Rogers, 2003). Rogers (1995) categorised the ‘usefulness’ categories along a continuum of end-users, namely: (a) innovators; (b) early adopters; (c) early majority; (d) late majority; and (e) laggards. The value in understanding how and when a product is brought to its appropriate market, in line with the innovation diffusion categories, is critical to achieving success (Van Eck et al., 2011).

The traditional purchase journey could previously be understood through the image of a funnel: the wide end of the funnel commenced with product awareness, followed by (and likewise narrowing in a step-wise fashion), familiarity, consideration, purchase and loyalty (Court et al., 2009). However, the influence of technology on the retail consumer market is substantial, leaving companies exceedingly subject to price comparison, consumer-driven marketing and a far less predictable purchase journey (Court et al., 2009). Exponential change in the next few years in the consumer retail sector is inevitable, where multichannel capabilities (selling both online and offline) are currently attempting to find equilibrium and transition (Albors-Garrigos, 2020; Breuer et al., 2014; McKenzie et al., 2018). The navigation from bricks-and-mortar to e-commerce continues to require precision in reduction of offline presence and introduction of an online presence at the appropriate timing in order not to exclude any end-consumers (McKenzie et al., 2018).

Organisations also need to authoritatively anticipate the future needs of their customers (Kaplan and Norton, 1996). According to Kaplan and Norton (1996, p. 85), “managers should have a clear idea of their targeted customer and business segments, and select a set of core outcome measurements - share, retention, acquisition, satisfaction, and profitability - for these targeted segments”. The survival of retailers depends on retail managers possessing an acute understanding of what the end-consumer needs (Makhitha & Khumalo, 2019), since consumers frequent and support the supermarkets that best meet their needs (Das Nair, 2019). Food retailing, and specifically offering daily food products, plays a critical role in shaping consumer behaviour by providing daily necessities for basic survival (Ngouapegne & Chinomona, 2019). Consumer buying patterns will continue to be in exponential flux, requiring speedy development from food companies, and therefore a strong reliance on suppliers (Van der Valk & Wynstra, 2005). Modern consumers are known to be more fragmented, which increases the pressure on grocery retailers to perform (Albors-Garrigos, 2020; Evanschitzky et al., 2012). Owing to globalisation, the homogeneity of consumers has shifted exponentially, rendering a heterogenous consumer landscape (Ullah & Ming Yit Ho, 2020). In addition, the variation in generational consumer patterns is also evident (Francis & Hoefel, 2018). The manner in which a Baby Boomer consumes is very different from the way a Millennial consumes (Bathmanathan et al., 2018). According to Francis and Hoefel (2018), the manner in which Generation Z is going to consume is projected to place increasing pressure on product innovations. The entry of younger generations as consumers has had a shortening effect on product life cycles (Pourhejazy et al., 2019). Product life cycles were typically around 20 years long in the 1950s, and five years in the late 1990s (Cooper, 2011). A new product will be challenged by a more competitive product within a few months of launch (Udokporo et al., 2020). The current grocery retail product life cycles are estimated to be as short as 12-18 months (Pourhejazy et al., 2019). In addition to product life cycles, the consumption cycle should

also be considered. Certain products sold in a grocery retail environment are named fast-moving consumer goods (FMCG) or consumer packaged goods (CPG), and are known for their short consumption cycle (Ray et al., 2016). The speed of consumption may in some cases be so rapid that daily replenishment may be required (Battezzati & Magnani, 2000). These factors place increasing pressure to innovate (a) appropriately and (b) at sufficient speed.

Breuer et al. (2014, p. 2) outlined the dimensions of consumer retail performance in Figure 8. The visualisation places the customer at the centre, since the other critical mechanics can often sidetrack the concentration on the critical goal to achieve end-consumer relevance (Midgley, 2010; Tsai, 2009), via purchase and repurchase (Kunamaneni et al., 2019). If the end-consumer does not respond to the innovation, it has failed to reach the commercial stage (Albors-Garrigos, 2020). Particular to this study is the notion that innovation performance is achieved via end-consumer satisfaction - hence the relevance of the centrality of the customer, as depicted in Figure 8.

Figure 8

The Six Dimensions of Consumer Retail Performance



Note. Reproduced from Breuer et al., 2014.

Figure 8 depicts the five major aspects that contribute to achieve a significant customer proposition through product innovation performance, being: people, operations, merchandising, infrastructure, and customer-focus. It is the 'people' aspect that forms a critical part of this research study, specifically because of their relational strength. The sub-components that pertain to the purview of this research

study include 'people leadership', 'colleague engagement', and 'supplier management'. The context in which grocery retail product innovation performance needs to occur requires general leadership through strategic direction to ensure that all the roles are optimally fulfilled (Midgley, 2010; Roberts & Fusfeld, 1997; Shafi et al., 2020; Super, 2020). The knowledge-workers who collaborate to achieve product innovation performance require leadership and the support of both internal and external relationships (Breuer et al., 2014). Transforming and amplifying the individual and collective human capital requires a particular leadership approach (Eckardt et al., 2020).

2.1.3.2 Product innovation performance through collaboration

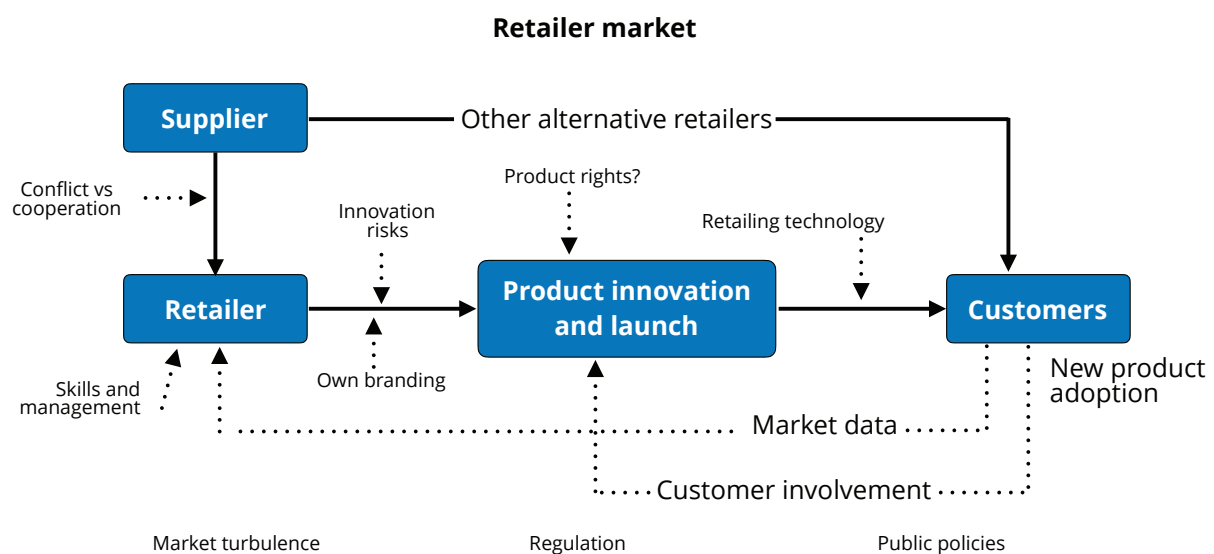
Fast-responding partnerships have played a pivotal role in transforming the grocery retail sector into what it is today (Battezzati & Magnani, 2000; Frances & Garnsey, 1996). The grocery retail sector involves various actors (Elg & Paavola, 2008). Supermarkets and independent and informal retailers are on the consumer-facing side (Makhitha & Khumalo, 2019), with an entire integrated supply chain that includes suppliers, manufacturers, logistics, distribution, and marketing (Frances & Garnsey, 1996). National grocery retailers in South Africa rely, in varying proportions specific to particular retailer business models, on (a) private-label manufacturing suppliers and (b) national brand suppliers (Masojada, 2021). The products of the former are sold under the grocery retailers' brands, while the latter are independent brands available at most grocery retailers (Konuk, 2020; Montandon, 2013). In the South African context, the quality difference between private label branded goods and independently branded goods is minimal, which is not the case with European private versus independent brands (Ndlovu, 2019). It has become increasingly relevant to retailers to develop their own branded ranges in order to stay relevant to end-consumers (Elg & Paavola, 2008). The advantages to a supplier to produce for retailers' private labels generally involves: (1) distribution channel expansion; (2) increased market share; (3) cost reduction; and (4) access to privileged information (Konuk, 2020). Private label brands are owned by the retailer. The area where retailers need to especially trust their suppliers is where suppliers are responsible for the manufacturing of the retailer private label branded products (Ndlovu, 2019). Any quality issues have the propensity to damage the retailer brand and not the manufacturer reputation in the public arena (Konuk, 2020). Risk management remains a key component of retailer-supplier relations, especially in private label contexts. The supplier risks replacement unless the particular relationship includes sufficient uniqueness and established barriers to entry (Konuk, 2020; Nandonde, 2019). The retailer, in turn, entrusts the supplier with matters of quality and timely supply (Konuk, 2020). South African retailers find it challenging to source and nurture reliable private label suppliers (Ndlovu, 2019). In addition, the competition-intensity among suppliers due to razor-thin profit margins in the grocery retail setting, remains high (Meyer et al., 2019). High levels of competition are a potential source of

destabilisation in the retailer-supplier power dynamic, where retailer-buyers garner additional negotiation power (Meyer et al., 2019). According to Elg and Paavola (2008), commercial buyers in the grocery retail industry used to be central to the supplier relationship; however, as private label development became more salient for grocery retailers to remain competitive, the role of food technologists and product developers became of equal significance. Food technologists are tasked with aspects of hygiene and food safety where the technical requirements are often non-negotiable and the deliverables to confirm technical suitability run in a sequential fashion, hence a requirement for these individuals to be assertive and detail-oriented (Tufano et al., 2018). The product developers will often initiate communication with regards to a new product or required improvement (Afif et al., 2020).

In Figure 9, Albors-Garrigos (2020) positions product innovation and launch as the central conduit between retailers and their customers. The significant role of suppliers is established where open innovation with strategic supplier partners are the prominent manner in which grocery retailers can achieve product innovation (Albors-Garrigos, 2020). According to Monczka et al. (1998) a supplier is considered to achieve strategic status provided the following three conditions are present (a) the independence of parties, (b) shared benefits among the parties, and (c) an ongoing collaboration in one or more areas. An open innovation approach dovetails with: (1) the research of Kuijpers et al. (2018) that grocery retailer teams are typically slow to innovate sans supplier collaboration; and (2) the assertion by Ren et al. (2015) that both the customer and supplier voices provide access to assets and business ideas, unlikely to be achieved solo, thereby enriching the retailer's knowledge pool.

Figure 9

Relationships, Barriers and Facilitators to Grocery Retail Innovation



Note. Reproduced from Albors-Garrigos, 2020.

In Figure 9, Albors-Garrigos (2020) presents the factors that affect innovation in a grocery retail setting, some being external like 'market turbulence', 'regulation' and 'public policies'. Noteworthy factors from Figure 9 that are relevant to this research study are:

- Supplier: the degree of supplier collaboration and management, which will affect information flows, exclusivity parameters and product rights (for example, establishing exclusivity agreements with suppliers to avoid competitors accessing the same supplier innovation prowess)
- Retailer: including internal team skills management
- Innovation risks: assessment of risks, including failure potential, with repercussions for both suppliers and the retailer

Figure 9 illustrates that grocery retail product innovation does not occur in isolation (Albors-Garrigos, 2020), requires collaboration with strategic partners (Powell et al., 1996), and requires visionary and strategic leadership (Sattayaraksa & Boon-itt, 2018). Risk assessment should be conducted independently by each party to avoid blame in the event that any degree of failure occurs (Powell et al., 1996). Leadership and management of the appropriate knowledge and skills, with both retailer and supplier teams, is imperative in order to successfully achieve innovation goals (Midgley, 2010; Powell et al., 1996; Tsai, 2009)

Suppliers generally occupy niches, with the advantage of being close to the industry trends and nuances, enabling the potential to initiate innovations for competitiveness (Johnsen, 2009; Pisano, 1990; Tsai, 2009). Where supplier resources and capabilities are valuable, immobile, scarce and inimitable, they provide a great competitive advantage to the retailer (Manzoor, Khan & Adeel, 2019; Sjoerdsma & Van Weele, 2015). A comparative study juxtaposing Japanese and Western automobile companies found the 'early supplier involvement' approach by Japanese companies as highly advantageous when compared with Western counterparts. Japanese suppliers were encouraged to share technological expertise in the development of new products, which resulted in the increase of product performance (Bidault et al., 1998). Supplier involvement in the early stages of product development ensures advantage in terms of reduced cost, time to market and improved quality (Johnsen, 2009; Sjoerdsma & Van Weele, 2015; Van der Valk & Wynstra, 2005; Vanpoucke et al., 2014).

Absorptive capacity is defined as the combination of existing banks of knowledge and assimilating new information for commercial ends (Tsai, 2009). Managing and increasing the absorptive capacity in an organisation is closely related to managing supplier relationships to glean knowledge to assimilate for

innovation application (Bönte & Keilbach, 2005; Tsai, 2009; Wagner & Bode, 2014). Ensuring a healthy ability to absorb and assimilate knowledge should be a high priority for organisations that: (1) are large or complex; and (2) rely on open innovation via the voice of suppliers and end-consumers (Tsai, 2009). Diversified knowledge is known as variety in knowledge and considered a critical factor in contemporary innovation; it is sufficiently enhanced with the addition of external resources (Gao et al., 2015). The organisation's ability to exploit supplier knowledge is considered a significant aspect of product innovation performance, where innovation is increasingly occurring in non-isolation (Schiele, 2006). Over time, suppliers and the retailers they supply develop a 'shared code' in which to trade 'know-how' (Von Hippel, 1988), resulting in a community of knowledge sharing that is fluid as opposed to static (Powell et al., 1996), which in turn creates an environment for innovation success. The flow of information between the knowledge workers across the retailer-supplier spectrum creates an increase in rapidity and success in terms of innovation (Roscoe et al., 2016; Powell et al., 1996). Supplier knowledge management should be a deliberate strategy for the retailer (Zhang et al., 2015). The types of elements to integrate should be: (1) product development knowledge exchange; (2) synchronised production planning based on sales; and (3) resource information sharing (Vanpoucke et al., 2014).

A literature review of buyer-supplier open innovation benefits accentuate conflicting results, with contextual factors as a critical aspect to tweak in order to ensure open innovation actually translates into innovation success (Sipos et al., 2014). Bringing together different functional teams is, however, not a guarantee for innovation success and often involves a collision of "varied thoughtworlds" (De Clercq et al., 2011, p. 680). The combination of different team members may have difficulty in merging their knowledge, which may hinder the creation process. Open innovation is an ideal way of achieving rapidity in producing radical new products; however, not all organisations are set up to exploit this approach, owing to a preference to have tighter control over their relationships and sources of breakthrough innovation (Cheng & Chen, 2013). The 'team sport' of innovation is demonstrated by product innovation practices of companies like Honda, Procter & Gamble and Wal-Mart, which rely extensively on their suppliers to push product innovation (Fawcett et al., 2012). Literature on suppliers that push innovation is rare (Wagner & Bode, 2014). Generally, the supplier decision to push innovation involves the recognition of future commercial benefit (Wagner & Bode, 2014).

Innovation is a boundless concept (Samad, 2012) with varying competitive effects (Henderson & Clark, 1990). However, once distilled to greater granularity (Gopalakrishnan & Damanpour, 1997), the aspects that optimally support the particular innovation can be identified (Crossan & Apaydin, 2010). Product innovation performance in a grocery retail environment is particularly sensitive to

competition (Ganesan et al., 2009), with a demanding end-consumer base (Bryant & Kazan, 2012), thus requiring further constant appropriate innovations (Das Nair & Landani, 2020). Both the product life cycle and consumption cycle is very short (Wagner & Bode, 2014). The salience of a leader in the innovation process is vital (Echebiri & Amundsen, 2020; Kallio & Lappalainen, 2015), specifically in sense-making (Prange & Schlegelmilch, 2010), to manage several role players (Bidault et al., 1998; Goffin et al., 2006), to optimise knowledge sharing (Eckardt et al., 2020), to establish a conducive organisational culture (Hueske et al., 2015), to streamline processes (Cooper, 2011; Hambrick & Mason, 1984), and to manage suppliers (Sjoerdsma & Van Weele, 2015). The transformation and amplification of individual team member contributions to achieve product innovation performance is key (Eckardt et al., 2020). The individual contribution to innovation is boosted through: (1) relationship-building between the leader and follower (Waglay, 2020); and (2) high self-leadership behaviours among individual team members (Gomes et al., 2015; Stashevsky et al., 2006). Since the speed-to-market requirements and pressures remain relentless (Bönte & Keilbach, 2005), open communication and collaboration channels with suppliers, increase the likelihood of product innovation performance (Albors-Garrigos, 2020; Von Hippel, 1988).

2.2 LEADERSHIP AND INNOVATION

The imperative to innovate is matched with the need for strategic direction and leadership to ensure success (Gumusluoglu & Ilsev, 2009). Blake and McCaense (1991) referred to leadership as either a concern for production or a concern for people. However, flat and more diverse organisational structures, with cross-functional and self-managed teams, are becoming increasingly prevalent (Neck & Houghton, 2006), and modern-day leadership necessitates the involvement of both leaders and followers (Canterino et al., 2020). Vecchiotti (2018) rephrased the leader and follower relationship to “leaders and implementers” that co-create outcomes (p. 42). The involvement of both the leader and follower collectively creates an influencing environment where followers have a greater sense of agency with maximised contributions in work output (Ishaq et al., 2021). Unsustainability in an organisation is defined as the “executive exploitation for short-term gains at the expense of other stakeholders” (Pearce et al., 2013, p. 247) or the antithesis of “organisational approaches aimed at achieving a balance between short-term organisational goals and long-term enterprise and social responsibility” (Pearce et al., 2013, p. 248).

A ‘leader support-related concept’ - a term coined by Cheong et al. (2019) - includes three of the constructs of this study, namely transformational leadership, self-leadership and leader-member exchange. The other five constructs that are considered to fall under the banner of leader-support,

include empowering leadership, participative leadership¹, ethical leadership, path-goal theory of leadership, and shared leadership². While these constructs are all unique, the outcome of high or positive levels of transformational leadership, self-leadership and leader-member exchange is greater empowerment and a sharing of the leadership and positive outcomes (Cheong et al., 2019). The association between shared leadership, transformational leadership, self-leadership and quality of exchange is relevant, since shared leadership is connected to positive innovation outcomes, specifically where both the leader and team members feel the responsibility to achieve (Kremer et al., 2019). Especially in instances where the formal leader exhibits transformational leadership behaviours, the potential exists for shared leadership and an increase in peer-sharing of knowledge (Coun et al., 2019).

Teams that are self-managed are, among others, closely related to self-leadership and shared-leadership theories (Houghton et al., 2003). Shared leadership involves a decentralised approach to organisational leadership with a spread of accountability, since top-heavy centralised leadership is considered unsustainable in the modern organisation (Pearce et al., 2013). Shared leadership has a positive effect on team performance, group cohesion and collective vision (Fernandez et al., 2010). A potential way in which shared leadership leads to effective performance is where responsibilities are assigned to equally yoked positions of mentor, innovator, producer and director (Yang, 1996). The antecedents of shared leadership include coaching, social support, voice and a shared purpose (Bhattacharyya & Jha, 2013), which are related to many of the behaviours of a transformational leader. A contemporary shift has occurred in conceptualising leadership as more of “a social process that is embedded in a context of team dynamics and social interaction” and thus less about the individual leader behaviours and characteristics (Bligh et al., 2006, p. 311). According to Gumusluoglu and Ilsev (2009), transformational leaders are able to provide both individual team support and overall organisational leadership to support the achievement of innovation success. This research study holds at its core a focus on how the shared social interaction by transformational leaders, self-leaders, quality leader-follower relationships and quality relationships between retailers and their suppliers advance the product innovation performance journey.

¹ Participative leadership can take on a variety of forms, including “consultation, joint decision making and delegation”, and ultimately creates a “positive innovation climate” (De Jong & Den Hartog, 2007, pp. 44–45).

² ‘Shared leadership’ is not ‘empowering leadership’ (Pearce et al., 2013) or ‘vertical leadership’ (Fernandez et al., 2010), despite the positive effect of these styles.

2.3 TRANSFORMATIONAL LEADERSHIP

Transformational leadership theory originated 40 years ago and is considered to be one of the most constantly researched leadership models (Alamir et al., 2019; Ivey & Kline, 2010; Siangchokyoo et al., 2020; Yammarino & Bass, 1990). According to Mills (2020), the current count of scholarly reports on transformational leadership for the time period 1978-2020 totals 24 700 manuscripts on Google Scholar and 22 608 on the Europe PMC database.

2.3.1 Definition and development of transformational leadership

In respect of its principles, transformational leadership first appears in the work of Weber 1923 (Ergeneli et al., 2007). These studies were followed by Burns (1978), who first mentioned transactional³ versus transformational leadership in the context of political leadership as polar opposites. The theory of Burns (1978) was developed into full range leadership theory by Bernard Bass (1985), which included five factors relating to transformational leadership, three factors relating to transactional leadership, and one non-leadership or laissez-faire leadership factor. Transformational leadership has four dimensions, according to Bass (1985): (1) idealised influence or charisma; (2) inspirational motivation; (3) intellectual stimulation; and (4) individualised consideration. According to Podsakoff et al. (1990), the dimensions required expansion to include: (1) identifying and articulating a vision; (2) providing an appropriate model; (3) fostering the acceptance of group goals; (4) high-performance expectations; (5) provision of individualised support; and (6) intellectual stimulation. The theory of transformational leadership is categorised among neo-charismatic leadership theories (Nemanich & Keller, 2007; Palrecha et al., 2012), where over a hundred empirical studies have been conducted on leadership theories that fall within the neo-charismatic paradigm (Den Hartog et al., 1999). Neo-charismatic leadership theories focus on the emotional and symbolic aspects of leadership (Zagorsek, 2004), specifically pertaining to leaders' influence on their followers (Angawi, 2012). A transformational leadership style is recognised as incorporating persuasion, charisma, vision, inspiration and motivation (Jackson, 2020).

2.3.2 Dimensions of transformational leadership

The dimensions of transformational leadership have undergone development since the phenomenon was first created by Bass (1985). The overwhelming criticism of the concept of transformational

³ Transactional leaders "seek cooperation from their followers by establishing exchanges with them and then monitoring these exchange relationships" (Gao et al., 2020, p. 238). Therefore, transactional leadership is about a strong reliance on quid pro quo to leader-follower tasks and reward structures (Krüger et al., 2011).

leadership is in its ambiguously described dimensions (Brocato et al., 2011; Fischer, 2016). Over the past 40 years, various authors elaborated on the dimensions in parallel, and Podsakoff et al. (1990) consolidated the varying schools of thought pertaining to transformational leadership, as is shown in. The consolidation indicates the progression from inception and subsequent fine-tuning, and is relevant to this research study, since it forms the basis of how the existing theory is applied and which quantitative research instrument is used in the quantitative analysis.

Table 1*Behavioural Components of Existing Models of Transformational Leadership*

Behavioural component	House (1977)	Bradford and Cohen (1984)	Bass (1985)	Bennis and Nanus (1985)	Tichy and DeVanna (1986)	Conger and Kanungo (1987)	Kouzes and Posner (1987)
Identify and articulate a vision	Provide an appealing vision	Determine and build a common vision	Charismatic leader behaviour*	Management of attention through vision	Recognise a need for change and create a new vision	Advocate an appealing yet unconventional vision	Challenge the process and inspire a shared vision
Provide an appropriate model	Set an example for followers to imitate	-	Charismatic leader behaviour	-	-	Take a high personal risk to support the vision	Model the way
Fostering the acceptance of group goals	-	Build a shared responsibility team	-	Work to develop commitment and trust	Team build to gain support for new vision	-	Enable others to act
High performance expectations	Communicate high expectations of follower performance	-	Inspirational leader behaviour	-	-	-	-
Provide individualised support	-	-	Individualised consideration	-	-	Be sensitive to the needs of the followers	-
Recognise accomplishments	-	-	-	-	-	Behave with confidence and enthusiasm	Encourage the heart
Intellectual stimulation	-	-	Intellectual stimulation	-	-	-	-
Other	Behave to arouse individual motives	Continuously develop the skills of individuals	-	-	-	-	-

* Bass' (1985) conceptualisation of charismatic leadership includes leader vision, as well as respect for the leader and the inspiration and encouragement provided in his or her presence

Note. Reproduced from Podsakoff et al., 1990.

Table 1 indicates the consolidation of the behavioural components with overlapping dimensions. For example, Bass (1985) recognised ‘individual consideration’ as a dimension, which Conger and Kanungo elaborated upon to specifically include follower need-sensitivity (Howell, 1988; Conger & Kanungo, 1994), and Podsakoff et al. (1990) consolidated as ‘the provision of individualised support’ and ‘the recognition of accomplishments’. Another development of interest is the starting point of ‘charismatic leader behaviour’, as conceived by Bass (1985), which was built on the foundation of ‘an example for imitation’ by House (1976). The aspect of charisma was further developed to modelling the way by Kouzes and Posner in 1987 (Kouzes & Posner, 2006). Throughout the years and among all authors in Table 1, the aspect of ‘articulating a compelling vision’ remained consistent. Charisma or ‘modelling the way’, was maintained by some of the authors; likewise, the ‘development of group goals’ and ‘trust’ were only shared by five authors. ‘Individualised support’, ‘recognition of accomplishments’ and ‘intellectual stimulation’ were shared by only a few authors in Table 1. The sub-sections to follow, itemise each dimension in greater detail.

2.3.2.1 High levels of charisma and providing an appropriate model

Charisma is a quality exhibited by those “who have high referent power and [are] trusted to overcome any obstacle and are seen as having attainable mission and vision”, with a strong emotive appeal, “exerting great power” over their followers, “even to the point of idealisation” (Ergeneli et al., 2007, p. 705). Charismatic leaders provide scope for the future with an enticing vision, which inspires pride, respect and trust (Arnold et al., 2001; Ling et al., 2008), and can be recognised for their high levels of determination, purpose, resilience, self-confidence, self-assuredness, energy, low levels of neurosis, salience of personal values, ethical and moral behaviour (Popper et al., 2000). Transformational leaders are particularly effective owing to leader prowess in transforming team member values (Schriesheim et al., 2006). Charisma may have adverse effects on leader impact, especially where transformational leaders are primarily charismatic and do not have a balance between the other transformational leadership attributes (Mills & Boardley, 2017). The ego component of a highly charismatic leader can be detrimental to the organisation, especially when there is a high need for follower admiration and affirmation (Basu & Green, 1997). In line with the notion of ego, Howell (1988) asserted that charisma could be either negative or positive, since the word charisma has been used to describe a wide spectrum of leaders, from Adolf Hitler to Franklin Delano Roosevelt (Howell & Avolio, 1992). Lindholm (2002, p. 358) described the charismatic side of leaders as often being fraught with irrational and whimsical behaviour, with decisions often being justified as “the leader says it”. Peter Drucker described charisma in leaders as the “undoing of leaders”, since leaders develop a strong conviction of infallibility, change-lethargy and general inflexibility (Manz & Sims, 1991, p. 21). Cabane (2013) devoted an entire book to the dimension of charisma, where the author argued that

charisma can be evident in leader focus, vision, kindness and authority. According to Podsakoff et al. (1990), charismatic behaviours, as envisioned by Bass (1985) in Table 1, are embedded in the aspect of being visionary. According to Cabane (2013, p. 99), 'focus charisma' is based on a "perception of presence", ensuring that people feel heard and understood. 'Visionary charisma' is marked with a "conviction and confidence in a cause" and a sense of leader comfort with uncertainty reduces team discomfort in the unknown (Cabane, 2013, p. 101). 'Kindness charisma' is the sense of complete acceptance created by the leader which creates high levels of cohesion within the organisation (Cabane, 2013). 'Authority charisma' is considered the most powerful of the four types of charismatic variations as it entails an authoritative embodiment that can be positive and destructive - examples of destructive authoritative-charismatic leaders are Stalin and Mussolini (Cabane, 2013). It is also relevant to note that while transformational leadership behaviour may exhibit strong charisma, there is a difference between transformational leadership and charismatic leadership, where the two theories are "distinct but partially overlapping processes" (Yukl, 1999, p. 299). Therefore, it is feasible for a leader to be charismatic without being transformational.

2.3.2.2 *The ability to identify and articulate a compelling vision*

Transformational leadership "starts with the development of a vision, a view of the future that will excite and convert potential followers, the employees" (Yang & Islam, 2012, p. 388). Vision is a significant component of transformational leadership, driving much of organisational change (Podsakoff et al., 1990; Sarros et al., 2011). Transformation occurs when: (a) the change imperative is iterated; (b) a new vision is cast; and (c) there is mobilisation to effectuate the vision (Den Hartog et al., 1999). A vision must satisfy two aspects, namely: (1) key stakeholders must be represented; (2) it must be translated into strategy with ease (Kotter, 1990; Zaleznik, 1990). Therefore, being visionary becomes transformational when there is inclusion and a roadmap. In ambiguous and uncertain settings, leaders are required to respond to rapid change with efficiency and agility (Paglis & Green, 2002). The leader aligns the vision with the values through appropriate articulation, ensuring that the team attaches meaning to strategy execution (Kotter, 1990). Transformational leaders can spark both solutions and ideas in team members by showcasing a strong vision and facilitating solution-finding work sessions (Lehmann-Willenbrock et al., 2015). The provision of a compelling vision is strongly connected to positive innovation outcomes (Gumusluoglu & Ilsev, 2009).

2.3.2.3 *Idealised influence, inspirational motivation and fostering the acceptance of group goals*

Inspirational motivation is a core aspect of how transformation leaders operate, which energises followers to go beyond self-interest (Ling et al., 2008). Transformational leadership involves the deployment of "symbols and images to increase understanding of mutually desired goals" (Ergeneli et

al., 2007, p. 706), and inspires a mutual pursuit of a higher purpose and a strong set of values (Currie et al., 2005). Inspirational motivation is evident through the articulation of a bold vision for the future, identifying meaningful work, and vocalising confidence in followers (Ergeneli et al., 2007). Inspirational motivation elicits high levels of team spirit (Bass & Riggio, 2006). Inspirational motivation is providing meaning and challenge to inspire and motivate (Popper et al., 2000). Idealised influence involves the leader's emphasis on a collective mission with explicit evidence that the leader is co-labouring to achieve goals, which may present self-sacrifice, demonstration of ethical and moral behaviours (Bass & Riggio, 2006). Idealised influence entails exemplary moral behaviour, power used for the good of the group, and setting challenging goals (Popper et al., 2000).

2.3.2.4 High-performance expectations

A transformational leader iterates expectations for excellence, quality and high-performance (Podsakoff et al., 1990). Transformational leaders are proactive and innovative (Ergeneli et al., 2007). The encouragement to question own beliefs, values and expectations is a hallmark of the leader-follower relationship in a transformational context (Ergeneli et al., 2007). When transformational leaders contribute their own ideas and solutions, this is viewed as inspirational to team members, leading to: (1) emulation of positive contributions; and (2) ceasing of counterproductive behaviours by team members, both of which lead to greater performance (Lehmann-Willenbrock et al., 2015).

2.3.2.5 Individualised consideration, support and recognition for accomplishments

Individualised consideration is considered one of the foundations of transformational leadership theory (Bass, 1985). The dimension of 'individualised consideration' involves bespoke attention to individuals (Ergeneli et al., 2007). Consistent attention to, and development of, individuals through coaching and mentorship is an embodiment of individualised consideration (Popper et al., 2000). A transformational leader invests time to give considerable availability to the individuals, thereby establishing a connection of respect and responsibility (Ling et al., 2008). The transformational leader "delegates his authority but coaches if necessary and treats every follower equally and individually" (Ergeneli et al., 2007, p. 706). Individualised support, in the context of transformational leadership, entails a tailored mentorship that empowers the follower to high degrees of specificity (Cho & Dansereau, 2010). The theory contributions by Conger and Kanungo (1994) developed the dimension of individual consideration to include a 'sensitivity to the needs of followers', and Podsakoff et al. (1990) elaborated on this dimension to include 'individualised support and recognition of accomplishments'. Transformational leaders that empower their followers is strongly connected to creating a work environment for innovation to proliferate (Gumusluoglu & Ilsev, 2009).

2.3.2.6 Intellectual stimulation

Intellectual stimulation leads to an increase in innovation and creativity, to seeing problems from different vantage points, to challenging the easy way out, and to a desire to achieve everything that is new and better (Eisenbeiß et al., 2013; Ling et al., 2008; Popper et al., 2000). According to Rafferty & Griffin (2004), intellectual stimulation is the most underdeveloped dimension of transformational leadership. A leader that intellectually stimulates their followers also promotes “intelligence, rationality, and careful problem solving” in their followers (Bass, 1990, p. 22). Intellectual stimulation challenges the status quo assumptions in followers, while also sparking new ways of thinking (Carreiro & Oliveira, 2019; Siangchokyoo et al., 2020). The process of intellectual stimulation challenges followers to re-examine their assumptions around work and mechanisms for improved performance (Podsakoff et al., 1990). The follower-effect or response to intellectual stimulation is a fine-tuned ability to problem-solve with quality solutions (Bass & Avolio, 1990). Rafferty & Griffin (2004, p. 333) described intellectual stimulation as the enhancement of employee “interest in, and awareness of problems, and increasing their ability to think about problems in new ways”. Providing intellectual stimulation is more effective in: (1) collectivist cultures; (2) cultures that espouse a high power distance; and (3) cultures that are less prone to be concerned with uncertainty (Engelen et al., 2014). Engelen et al. (2014) asserted that intellectual stimulation acts as a motivator to approach problems in innovative ways, which in turn increases uncertainty. According to Shafi et al. (2020), intellectual stimulation is associated with increased employee creativity and innovativeness. Sheehan et al. (2020) argued that both individual consideration and intellectual stimulation are of the most significant in achieving strong individual relationships between leaders and followers.

2.3.3 Outcomes of transformational leadership

Burns (1978) positioned the transformation of followers as the general outcome of transformational leadership, which entails a positive and fundamental change in follower motivation and approach to work activities. The positive effect of transformational leaders on their followers is long term (Rosen et al., 2019). Transformational leaders positively challenge and ‘stretch’ their followers (Ojha et al., 2018, p. 216). One of the characteristics of a transformational leader is the ability to articulate the vision, exerting high-performance expectations and providing intellectual stimulation (Podsakoff et al., 1990). A new and transformational direction and strategy may have a range of follower reactions (Nemanich & Keller, 2007). At a minimum, the leader’s vision will positively challenge or stretch followers (Ojha et al., 2018, p. 216), which will enable mental models to be developed (Nemanich & Keller, 2007). Leaders with high transformational behaviours will exert high-performance expectations on their followers (Ergeneli et al., 2007). The leader expectations of followers require that followers

apply themselves with determination to develop their discipline (Ojha et al., 2018). Transformational leadership behaviours are related to elevated employee performance outcomes (Den Hartog et al., 1999; Manzoor, Wei, Nurunnabi et al., 2019, Osborn & Marion, 2009; Palrecha et al., 2012; Podsakoff et al., 1990), inspiring the extra effort in followers to exceed expectations (Arnold et al., 2001). The extra effort occurs in tandem with followers circumventing their own self-interests and aligning themselves with what is best for the organisation (Avolio et al., 1995; Bass, 1985). Transformational leaders increase performance through the increased self-efficacy of their followers (Ergeneli et al., 2007), as well as the team's collective efficacy (Arnold et al., 2001). Self-efficacy is described as "an important motivational construct increasing followers' belief in their capability to organise and execute the actions required to attain a given goal" (Ergeneli et al., 2007, p. 704). Collective efficacy is defined as "a group's shared belief in its conjoint capabilities to organize and execute courses of action required to produce given levels of attainment" (Bandura, 1997, p. 477). The positive challenging and stretching by transformational leaders (Ojha et al., 2018) aligns directly with the necessity of innovation champions (Sergeeva & Zanello, 2018), in the quest to achieve product innovation performance.

Transformational leadership behaviours lead to increased leader trust and job satisfaction (Podsakoff et al., 1990). Trust is described as a trait, "an emergent state", a process and a "retrospective sensemaking device" and it is defined as "confidence in one's ability to predict how the other will perform or respond" (Kelley & Bisel, 2014, p. 435). Transformational leaders establish and develop organisational trust (Gillespie & Mann, 2004), which in turn promotes the acceptance of group goals (Ojha et al., 2018). In their meta-analysis of trust and leadership, Dirks and Ferrin (2002) reported that transformational leadership is "strongly predictive of trust". Nemanich and Keller (2007) studied the relationship between transformational leadership and employee outcomes five months after a merger and acquisition, and concluded that transformational leadership behaviours were positively related to acceptance of change, improved performance and increased job satisfaction. Job satisfaction has a positive correlation with organisational performance (Yang & Islam, 2012; Khan et al., 2020). Popper et al. (2000) consolidated research to associate attachment theory with the development of transformational leaders, with the potential positive effect of optimised mental models and attitude towards change. Transformational leaders generally attract a higher follower commitment and achieve performance levels beyond the call of duty (Schriesheim et al., 2006). Aspects of commitment extend to the building of relationships (Sheehan et al., 2020) and working towards common goals (Ojha et al., 2018), such as product innovation performance.

Nemanich and Keller (2007) reviewed leader approval studies and found that the followers of transformational leaders all indicated elevated approval ratings and perceived effectiveness ratings. Followers of transformational leaders made a more favourable assessment of their leaders' abilities when compared to follower responses of leaders who lacked transformational leadership behaviour (Nemanich & Keller, 2007). The predictive validity between transformational leaders and employee retention, which in turn stems from trust and job satisfaction (Siangchokyoo et al., 2020), indirectly supports innovation through the retention of knowledge (Coun et al., 2019).

Transformational leadership has been connected to the increase in organisational citizenship behaviours (Altunoglu et al., 2019; MacKenzie et al., 2001). Miao et al. (2018) defined organisational citizenship behaviour as the non-mandatory or non-obligatory conduct, beyond a formal reward structure. The phenomenon has a direct influence on organisational efficacy and efficiency (Karadal & Saygin, 2013). Organisational citizenship behaviour is also defined as interpersonal helping, individual initiative, performing beyond the call of duty, and loyal boosterism by representing the organisation with pride (Abu Elanain, 2014). Leaders with high levels for transformational behaviour influence follower citizenship behaviour directly through blatant impact or indirectly via mediators such as trust and work satisfaction (Podsakoff et al., 1990). The relationship between transformational leadership and organisational citizenship behaviour is relevant, with individual and collective justice perceptions as the conduits for these two constructs (Cho & Dansereau, 2010). Justice perceptions refer to how individuals self-assess 'how' they are being treated in the workplace with strong associations with feelings of well-being (Luo et al., 2013; Herr et al., 2018). Individual and collective perceptions of how people are treated becomes the glue that connects transformational leadership style to organisational citizenry (Cho & Dansereau, 2010). Organisational citizenship behaviour is considered a prominent facilitator between transformational leadership and innovativeness (Khan et al., 2020).

Transformational leadership is positively associated with leader effectiveness (Cho & Dansereau, 2010). A transformational leader's impact on the top management team is the most potent of the whole organisation; interaction being close and direct - to the degree that it is noticeable in the characteristics of top managers (Ling et al., 2008). The noticeable top management practices that can be traced back to an effective transformational leader include (Ling et al., 2008): (1) behavioural integration; (2) decentralisation of responsibilities; (3) risk propensity; and (4) long-term compensation. To elaborate, 'behavioural integration' is the degree to which top managers interact and collaborate, as is evident in the exchange of information and joint decision-making (Ling et al., 2008). The notion of 'integration' dovetails with the necessary requirements for organisational knowledge and learning (De Jong & Den Hartog, 2007; Nonaka & Takeuchi, 1995; Pearce, 2007; Super,

2020; Kim et al., 2020). Since transformational leadership behaviours enhance overall leadership efficacy (Nemanich & Keller, 2007), and product innovation performance requires effective leadership (Hueske et al., 2015), enhanced leader efficacy is a significant facilitator of innovation success.

‘Decentralisation of responsibilities’ is the degree to which others are empowered to perform key tasks, with high self-management and appropriate intervention from the top manager (Ling et al., 2008). Transformational leadership behaviour is strongly related to aspects of empowering leadership, and the outcome brings more meaning for followers, and greater confidence (Cheong et al., 2019). Tekleab et al. (2008) vehemently contested the difference between transformational leadership and empowerment leadership⁴ in that there may be overlapping elements, though the driving force behind each is different. Empowerment is defined as a motivational construct and manifests in terms of meaning, competence, self-determination and impact (Spreitzer, 1995). Since empowerment in followers is strongly associated with transformational leadership (Avey et al., 2008), and empowerment leads to greater innovation ownership and success (Ahmed, 1998), the relationship between transformational leadership and innovation performance is established through empowered followers. While empowering leadership is often loosely related to transformational leadership (Tekleab et al., 2008), empowerment leadership is often juxtaposed with directive leadership, which is considered opposite to empowerment leadership (Echebiri & Amundsen, 2020). Directive leadership is often associated with transactional leadership (Echebiri & Amundsen, 2020).

Bass and Avolio (1993) positioned transformational leadership behaviour as persistence, energy, intuition, and sensitivity to the needs of others, with an outcome of positive and resilient organisational culture. Cultural change is best steered by a transformational leader (Jordan et al., 2015; Sarros et al., 2011). Transformational leaders are generally supportive and with an attitude of readiness for change (Jordan et al., 2015). Leaders effectuate cultural change either: (1) according to the functionalist view whereby the leader is the architect and engineer of the change; or (2) according to the anthropological view involving co-creation of culture (Sarros et al., 2011). Change can therefore occur from the top down, through a deliberate change strategy, or through organic co-creation over time. In the view of Lasrado and Kassem (2020), a transformational leader facilitates organisational change along four levers, namely: (1) maintaining consistency; (2) implementing a clear mission; (3) involving team members; and (4) ensuring team adaptability. The transformational leader has the

⁴ Empowering leadership is geared towards developing follower self-control, self-regulation, self-management and overall self-leadership behaviours. Leaders who are this way inclined delegate extensively and work towards creating an ideal environment to enable autonomy in followers (Tekleab et al., 2008).

highest impact in stimulating a culture of adaptability. A readiness and eagerness for change is strongly related to organisational innovativeness and innovation performance (Rizki et al., 2019). A readiness for organisational change has also been associated with organisational excellence (Lasrado & Kassem, 2020). According to the study by Zuraik and Kelly (2019), a CEO with strong transformational leadership traits is a driver of “innovation outcomes for the whole organisation” (p.97). Khan et al. (2020) confirmed organisational culture to be a meaningful moderator between transformational leadership and innovativeness.

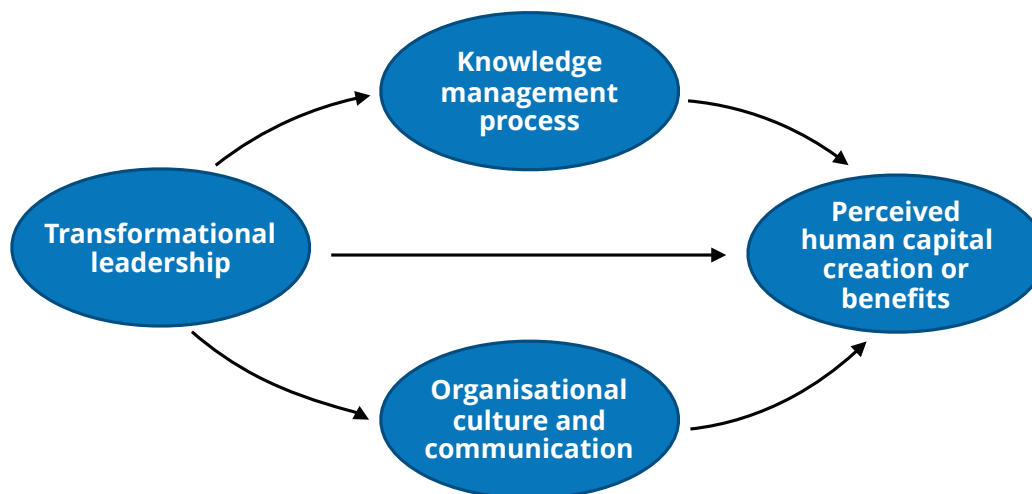
The leader, by virtue of a leadership title, uphold a position of authority that is generally recognised by team members (Lunenburg, 2012). When transformational leaders are truly transformational, there is a positive effect among followers (Siangchokyoo et al., 2020). According to Mills (2020), true transformational leaders are able to transcend their own egoistic desires. True transformational leaders are governed by a value system (Bass & Steidlmeier, 1999). Siangchokyoo et al. (2020) accentuated the importance of separation in definitions of ‘transformational leaders’ and ‘transformational leadership’. The former concerns leaders with certain attributes and behaviours, while the latter is “the process through which leaders transform followers” (Siangchokyoo et al., 2020, p. 3). A leader-follower scenario can only be marked by transformational leadership properties if transformation in the follower occurs. ‘Transformational leadership integrity’ refers to the correspondence of thought and action in terms of true transformational leadership principles (Mills & Boardley, 2017). Pseudo-transformational leadership could emerge as either: (1) opportunistic, where a semblance of true transformation is present, and a positive follower effect is evident only when it coincides with serving the leader’s own objectives; or (2) incontinent, marked by a leader’s attempt to come across as transformational, but being ineffective; or (3) base, which marks those leaders that are not concerned with the impression they create and are openly “committed to their egoistic values” (Mills & Boardley, 2017, p. 35). In addition to transformational leader dependence on follower hero worship, according to Chen et al. (2019), transformational leaders may develop such a charismatic and visionary spell that they may invest irrationally in too many resources. Bass and Steidlmeier (1999) likened pseudo-transformational leaders to charlatans, whose “overweight authority and underweight reason” take the credit for the achievements of others, scapegoat others for their mistakes, and “substitute anecdotes for hard evidence” (p. 188). ‘Core self-evaluation’ is described as the ability to self-evaluate in the context of environment. Resick et al. (2009) connected the concept of high core self-evaluation to leaders exhibiting strong transformational leadership traits. Atwater and Yammarino (1997) cautioned that the crux of transformational leadership efficacy is deeply rooted in the leader’s self-awareness and accurate estimation of own strengths and weaknesses. When shortcomings are assessed accurately, improvement mechanisms can be implemented, while

inaccurate assessment might lead to either dismissing weaknesses as irrelevant or despondency setting in owing to a failure mindset (Atwater & Yammarino, 1997). In a study by Tekleab et al. (2008), transformational leaders who had overestimated their level of embodying a transformational leadership style ended up having a smaller effect on followers

The overall outcome of a leader who embodies transformational leadership is primarily a positive follower effect (Mills & Boardley, 2017; Siangchokyoo et al., 2020; Tekleab et al., 2008). Transformational leaders establish trust (Arnold et al., 2001; Ling et al., 2008), empowerment (Avey et al., 2008), follower job satisfaction (Podsakoff et al., 1990), strong organisational identity (Den Hartog et al., 1999; Palrecha et al., 2012), organisational performance (Lehmann-Willenbrock et al., 2015), positive organisational culture (Bass & Avolio (1993), and continuous improvement (Yang & Islam, 2012; Khan et al., 2020). The outcomes of transformational leadership are either in direct or moderated support of the innovation process.

2.3.4 Transformational leadership and innovation

Leadership as an antecedent of innovation is discussed in Section 2.1.2.1 of Chapter 2, from which it is clear that innovation leadership involves the creation of ideal conditions (Midgley, 2010; Roberts & Fufeld, 1997; Shafi et al., 2020; Super, 2020), as much as it involves the process-related rudimentary aspects of innovation (Ahmed, 1998; Hambrick & Mason, 1984; Mumford & Licuanan, 2004; Van de Ven et al., 2008), to ensure that the innovation mandate is delivered (Conger & Kanungo, 1994; Eckardt et al. 2020). Engelen et al. (2014) verified the validity of transformational leadership behaviours in leading teams towards innovation outcomes. The relationship of transformational leadership with innovation promotion in organisations has been noted and demonstrated (Howell & Higgins, 1990). According to Ryan and Tipu (2013), “transformational leadership is a catalyst for enhancing innovation” (p. 2119). Sarros et al. (2011) consolidated a large body of research and concluded that “transformational leadership has a significant relationship with organisational innovation, both in terms of creating the conditions required for innovation (i.e. support for innovation, or prioritising open innovation initiatives) and as a direct contributor to innovation as an organisational outcome” (p. 295). However, according to Sheehan et al. (2020), the relationship between transformational leadership and innovation is inconclusive. The results from the study of Sheehan et al. (2020) accentuated: (1) the need to investigate organisational mediators between transformational leadership and innovation; and (2) the necessity to focus on individual dimensions of transformational leadership and how these may enhance innovation. According to Birasnav et al. (2011, p. 107), transformational leadership is the starting point to achieving “perceived human capital creation or benefits”, as is seen in Figure 10.

Figure 10*The Mediation Role of Knowledge Management*

Note. Adapted from Birasnav et al., 2011.

Figure 10 indicates the mediation effect of knowledge management and organisational culture between transformational leadership and perceived performance. The human capital benefits, in the context of this research study, relate to both perceived innovativeness and product innovation performance - therefore, to perception and actual output performance. Leadership should be attuned to the individual intellectual capital retained by knowledge workers to enable environments for optimal sharing of knowledge (Pearce, 2007). The usefulness of knowledge workers in successful innovation achievement is clear (Howell et al., 2005). However, the knowledge workers have limited capacity to handle the complexities of the innovation journey on their own and require appropriate leadership to match the team members and processes to meet the specific innovation challenge at hand (Dibrov, 2015; Van de Ven et al., 2008). Leadership is considered central to innovation (Prange & Schlegelmilch, 2010), specifically through enabling and enhancing innovative behaviour in employees (De Jong & Den Hartog, 2007). Transformational leaders are able to align, through process, and mobilise, through vision, the entire organisation to support the innovation activities (Hofstede, 2001). Carreiro and Oliveira (2019) assessed the dimensions of transformational leadership and their impact on innovation in a technological milieu and concluded that a visionary leader is the strongest influencing dimension. In the study of Sheehan et al. (2020), the manifesting dimension of 'idealised influence and inspirational motivation', along with a strong knowledge-sharing culture in the business, demonstrated the strongest correlation with innovation success (Sheehan et al., 2020). It has been demonstrated that the following transformational leadership behaviours can positively influence innovation performance through stimulating employee creativity: 'idealised influence', 'inspirational

motivation' and 'intellectual stimulation' (Eisenbeiß et al., 2013; Shafi et al., 2020). Table 2 lists the correlations between the six dimensions of transformational leadership, as confirmed by Podsakoff et al. (1990), with existing literature on innovation leadership.

Table 2

A Comparison Between Transformational Leadership and Innovation Leadership Along Six Dimensions

Dimension	Transformational leadership	Innovation leadership
The ability to identify and articulate a compelling vision	Articulating a vision for the future (Den Hartog et al., 1999); modelling a vision for organisational change and agility (Paglis & Green, 2002; Podsakoff et al., 1990; Sarros et al., 2011); translating the vision into strategy (Kotter, 1990; Paglis & Green, 2002; Zaleznik, 1990)	Chartering innovation via a visionary plan (Midgley, 2010; Van de Ven et al., 2008); providing strategic framing (Wolcott & Lippitz, 2010); gearing the organisation for agility and appropriate change (Midgley, 2010); developing vision to specify which knowledge type to increase in order to innovate successfully (Nonaka et al., 2005); inspiring team members with a new and novel vantage point (Roberts & Fufeld, 1997)
High levels of charisma and providing an appropriate model	Espousing charismatic behaviour through high levels of contagious energy (Ergeneli et al., 2007; Ling et al., 2008); expressing charisma through high levels of determination, purpose, resilience, self-confidence, self-assuredness, energy, and low levels of neurosis, salience of personal values, and ethical and moral behaviour (Popper et al., 2000)	Embodying or leading by example (Wolcott & Lippitz, 2010); exhibiting influential behaviour, reducing uncertainty in decision-making (Van de Ven et al., 2008); selling new ideas to others in the organisation (Roberts & Fufeld, 1997)
Idealised influence, inspirational motivation and fostering the acceptance of group goals	Demonstrating idealised influence through exemplary moral behaviour, power used for the good of the group, setting challenging goals (Cho & Dansereau, 2010; Popper et al., 2000); energising followers to go beyond self-interest (Cho & Dansereau, 2010; Ling et al., 2008); providing meaning and challenge, to inspire and motivate (Popper et al., 2000)	Tracking performance against goals (Wolcott & Lippitz, 2010); risking management and navigation, achieving of objectives (Van de Ven et al., 2008); acting out as an explorer, an ambassador, a creativity facilitator (Midgley, 2010); searching for breakthroughs (Roberts & Fufeld, 1997)
High-performance expectations	Iterating expectations for excellence, quality and high performance (Podsakoff et al., 1990); motivating to higher levels of performance (Sarros et al., 2011)	Contextualising the innovation mandate and project (Midgley, 2010); keeping the innovation team updated with related developments in and outside the organisation (Roberts & Fufeld, 1997); identifying new ideas, needs and opportunities (Van de Ven, 1986)

Dimension	Transformational leadership	Innovation leadership
Individualised consideration, support and recognition for accomplishments	Individualised consideration and attention involving bespoke attention to individuals (Cho & Dansereau, 2010; Ergeneli et al., 2007); consistent attention to and development of individuals in the form of coaching and mentoring (Popper et al., 2000)	Recruiting, validating, promoting, motivating and educating (Wolcott & Lippitz, 2010); coaching and mentoring (Van de Ven et al., 2008)
Intellectual stimulation	Intellectual stimulation leading to increased innovation and creativity, to see problems from different vantage points, to challenge the easy way out, and to exhibit a sense of challenge to achieve everything that is new and better (De Jong & Den Hartog, 2007; Eisenbeiß et al., 2013; Ergeneli et al., 2007; Ling et al., 2008; Popper et al., 2000); encouraging employees to think creatively (Sarros et al., 2011)	Allocating resources, attracting and retaining the right mix of talent (Wolcott & Lippitz, 2010); ensuring administrative and resource requirements are understood and met (Roberts & Fuschfeld, 1997); acting as a change agent (Midgley, 2010)

The comparison in Table 2 supports transformational leadership as relevant according to the requirements for innovation leadership. Table 2 confirms the relevance of studying transformational leadership as a significant determinant of innovation outcomes. For example, transformational leaders translate their vision into a concrete strategy (Kotter, 1990; Zaleznik, 1990; Paglis & Green, 2002), which corresponds with the view by Wolcott and Lippitz (2010) that strategic framing enables innovation success. The association between charismatic behaviour and contagious energy supports the notion that the innovation leader successfully sells new ideas to the rest of the organisation (Ergeneli et al., 2007; Ling et al., 2008). While the connection between transformational leadership and innovation leadership exists, Sheehan et al. (2020) cautioned that additional mediators are required to bolster the connection between transformational leadership and innovation success, supporting the notion that a mediating role is played by relational strength, in particular leader-member exchange and retailer-supplier exchange. According to the study by Gumusluoglu and Ilsev (2009), transformational leaders impact their followers on an individual level through individual motivation and empowerment, which in turn has positive effects on the follower innovation output. In addition, Gumusluoglu and Ilsev (2009) confirmed that transformational leaders create a work environment that is conducive for the whole organisation to achieve towards innovation success.

Transformational leaders exhibit quintessential traits; for example, a transformational leader is known to cope with change (Shao & Webber, 2006), to challenge the status quo (Ling et al., 2008), to positively affect individuals, dyads, groups and organisations (Palrecha et al., 2012), and to alter the

way a firm innovates and adapts (Ling et al., 2008). Transformational behaviours are relevant across work levels, environments, hierarchy and national culture (Khan et al., 2009).

2.4 SELF-LEADERSHIP

2.4.1 Definition and development of self-leadership

Self-leadership is the process of influencing oneself to perform by deploying self-direction and self-motivation strategies (Godwin et al., 1999). The overarching concept of self-influence, with intrinsic motivation theories and subsumed self-strategies, best describe self-leadership (Houghton & Neck, 2002). Self-leadership is defined as the “influence that people exert over themselves and the intention to control their own behaviours” (Yun et al., 2006, p. 377). Self-leadership can be described as the “self-imposed strategies for managing performance tasks of a low intrinsic motivational potential” and “self-influence that capitalises on the “natural”/intrinsic motivational value of task activity” (Manz, 1986, p. 585). Other words that have been used to describe self-leadership include: self-influence, self-control, self-regulation and self-management (Houghton & Neck, 2002; Politis, 2006; Yun et al., 2006). Self-leadership is described as exerting motivation, influence, direction and continuous improvement over the self (Politis, 2006). The symbolic and subjective components of self-leadership include self-navigation through mental imagery, by imagining own actions in future scenarios (Stashevsky et al., 2006). The mental imagery involves self-observation, self-cueing and constructive thought processes (Alves et al., 2006). Self-leadership includes, but also goes beyond self-management, self-influence and self-discipline (Pearce & Manz, 2005). Du Plessis (2019) was of the opinion that self-leadership is not simply a self-management mechanism, but instead entails individual-initiated thinking and acting (Du Plessis, 2019). At the core of the theory of self-leadership is the “outcomes of behaviour (i.e. performance)” and not “motivation of behaviour (i.e. personal strengths and needs)” (Du Plessis, 2019, p. 446-447). According to Du Plessis (2019), self-leadership extends beyond a sense of motivation and involves positively altered outcomes. Self-leadership entails a range of self-control behaviours and is fundamentally rooted in active participation (Abid et al., 2021). A self-led individual can align thoughts and motivate the self to rise appropriately to a given occasion or situation with concomitant action (Yun et al., 2006). Houghton et al. (2012) affirms the notion that self-leadership involves self-evaluation and self-adjustment, and culminates in continuously improved performance.

The theory of self-leadership started developing in the early 1980s and involved the convergence of theories involving influence over self (Goldsby et al., 2021). The early 1980s ushered in a de-layering of middle management that necessitated a drift towards self-managed team members (Godwin et al.,

1999). The concept of self-leadership started emerging from the 1980s, initially activated by the self-management research of Manz and Sims (as cited in Goldsby et al., 2021). Manz and Sims proposed self-management as the “degree to which any incumbent within an organisational role takes responsibility for the managerial ... aspects of his or her job above and beyond the mere execution of the production- and content-related responsibilities” (Markham & Markham, 1995, p. 344). While self-management and self-leadership are recognised as different constructs, self-leadership behaviour contains aspects of self-management behaviour and it is considered the catalyst in the formulation of initial self-leadership theories (Manz, 1986).

Some schools of thought criticise the concept of self-leadership as being a reframing of Bandura’s social cognitive theory, social learning theory (as cited in Goldsby et al., 2021 and Marques-Quinteiro et al., 2019), and self-control theory or Carver and Scheier’s self-regulation theory (as cited in Marques-Quinteiro et al., 2019). Marques-Quinteiro et al. (2019) argued that self-leadership is considered normative, while Bandura, Carver and Scheier’s respective theories are considered descriptive and/or deductive. Du Plessis (2019, p. 448) supports this notion by Marques-Quinteiro et al. (2019): “self-leadership is viewed as a normative process, with a strong focus on self-regulating and self-control behaviours on the part of the self-leading individual or self-leading team”. According to Houghton et al. (2012, p. 220), normative theories are common to business fields and are generally guided by recommended action, while deductive theories focus on describing phenomena. The theories of self-influence by Bandura and Cervone (1986) on aspects of self-leadership with their empirical work on ‘self-reactive influences’ accounts for a significant effect in motivation. Included in Bandura and Cervone’s research on self-reaction is the self-evaluation of own behaviour and cognition and the achieving of a sense of motivation to adjust future behaviour - which played a foundational role in the development of self-leadership theories (Megheirkouni, 2018). The initial body of research by Bandura and Cervone combines a “robust sense of self-efficacy” with “self-set challenges”, which leads to greater achievements by individuals with high levels of self-leadership (Bandura and Cervone, 1986, p. 93).

2.4.2 Dimensions of self-leadership

The concept of self-leadership can be viewed as an “internal self-control system” that deploys a variety of strategies in a quest to achieve goals successfully (Politis, 2006, p. 204). Self-leadership involves a dyadic interplay between the cognitive and the behavioural, and therefore between thoughts and actions (Alves et al., 2006). Self-leadership involves an introspective pursuit for motivation and control (Manz & Sims, 1980; Sims & Manz, 1996; Yun et al., 2006). An additional component of self-leadership is the development of natural reward strategies (Millikin et al., 2010). The action of rewarding oneself

for completion or achievement is a key component of self-leadership (Manz & Sims, 1991), and is technically considered to be more behavioural than cognitive, since granting a reward involves an action (Neck & Houghton, 2006). An individual with high levels of self-leadership develops and generates his or her own source of leadership strategies to self-motivate (Stashevsky et al., 2006). The intrinsic cognitive strategies involve constructive thought patterns (Godwin et al., 1999). Constructive, habitual positive thinking mechanisms include mental imagery, positive self-talk, self-analysis and belief system correction, with the final aim to increase performance (Neck et al., 2006). Behavioural strategies include self-goal, self-reward, self-correcting feedback and practice (Neck et al., 2006). The self-leadership strategies in Table 3 provide the differentiation between behaviour-centric and cognitive-centric. Some authors separate the aspect of ‘reward’ into a third component (Millikin et al., 2010), while other authors continue to keep these as sub-components defined as both behaviour or cognitive strategies (Manz & Sims, 1991; Godwin et al., 1999).

Table 3

Representation of Self-Leadership Strategies

Behaviour-focused	Cognitive-focused
<ul style="list-style-type: none"> • Self-observation (Manz & Sims, 1991) • Self-set goals (Manz & Sims, 1991; Neck et al., 2006) • Cue management and adjustments (Manz & Sims, 1991; Millikin et al., 2010) • Rehearsal (Manz & Sims, 1991; Neck et al., 2006) • Self-reward (Manz & Sims, 1991; Neck et al., 2006) • Self-correcting feedback (Manz & Sims, 1991; Neck et al., 2006) • Self-punishment/criticism (Manz & Sims, 1991) • Self-management (Godwin et al., 1999) 	<ul style="list-style-type: none"> • Discover natural rewards (Millikin et al., 2010) • Building natural rewards into tasks (Manz & Sims, 1991) • Thinking about natural rewards (Manz & Sims, 1991) • Establishing effective thought patterns (Manz & Sims, 1991) via: <ul style="list-style-type: none"> ○ Managing beliefs and assumptions (Neck & Manz, 1992); ○ Self-dialogue (Godwin et al., 1999); and ○ Mental imagery (Neck & Manz, 1992).

The first column of Table 3 lists the behaviour-focused, self-leadership strategies that essentially refer to the deployment of “action-oriented strategies to accomplish tasks that are difficult or are neither enjoyable nor motivating” (Boss & Sims, 2008, p. 143). The behaviour-focused strategies involve:

1. Self-observation involves the interrogation of the how, why and what of self-behaviour, and is enabled through high levels of self-awareness (Boss & Sims, 2008), and with the end goal to change where necessary (Manz & Sims, 1991).
2. Self-goal setting is about managing work via smaller components that will enable its completion (Manz & Sims, 1991).

3. Self-evaluation assesses the degree to which behaviour is positive versus negative, necessary or unnecessary, and desirable or undesirable (Boss & Sims, 2008).
4. Cue-management is about creating a match between personal behaviours and prompts (Manz & Sims, 1991), to enable optimal goal achievement and includes desk rearrangement, making lists, and setting reminders (Boss & Sims, 2008). Milikin et al. (2010) included the muting of unnecessary forms of technology as another example of cue management.
5. Rehearsal is about pre-performance physical or mental practice (Manz & Sims, 1991).
6. Criticism is about the detection of undesirable behaviour and is met with self-punishment through criticism and remorse (Manz & Sims, 1991).
7. Self-management falls under the umbrella of self-leadership, along with self-regulation, self-control processes and inherent work motivation (Markham & Markham, 1995). Self-management is considered a moderate self-influencing mechanism, transfixed with deviation-reduction as a main goal (Manz, 1986), however, not addressing the nature of the governing standards themselves (Godwin et al., 1999).
8. Self-reward is personalised and occurs when goals are met (Manz & Sims, 1991).

Cognitive-focused strategies, or “constructive thought pattern strategies” (Prussia et al., 1998, p. 524), are outlined in the second column of Table 3. The cognitive strategies centre around thoughts or thought self-leadership, elaborated upon by Neck and Manz (1992) and Godwin et al. (1999). Thought strategies involve a deliberate attempt to productively streamline, control and influence one’s thinking (Politis, 2006), shaping thoughts through specific cognitive strategies with the end-result of impactful performance (Neck & Manz, 1992). These cognitive aspects can affect or enhance cognitive processes, behaviour, attitudes, moods and feelings; the assumptions affect internal dialogue, thought patterns and how one behaves (Godwin et al., 1999). Specifically, thought self-leadership comprises:

1. Rewards built into tasks, which entails “self-redesign” of where and how work gets done to build natural rewards of enjoyment into one’s job - from this emanates a sense of competence, self-control and purpose (Manz & Sims, 1991, p. 24).
2. A focus on naturally enjoyable components of work, which involves a purposeful focus on the aspects of work that are fulfilling (Manz & Sims, 1991).
3. Managing thought-patterns. According to Martin Seligman (1991), a significant discovery of the early 1990s was establishing empirically that individuals have a choice in terms of the way they think. In line with Seligman, thought patterns can either be geared for a mindset of opportunity or obstacle (Godwin et al., 1999). Thought patterns are managed through:

- Beliefs and assumptions: Many of these are unconscious, habitual and may either be positive or negative (Neck & Manz, 1992). A key part of self-leader cognitive development is overcoming dysfunctional beliefs (Millikin et al., 2010).
- Self-dialogue: This involves the dynamic internal conversation that includes self-talk, self-verbalisations and self-statements (Godwin et al., 1999). Self-talk or self-verbalisations are the things self-lead individuals privately tell themselves, with positive repercussions for performance (Neck & Manz, 1992).
- Mental imagery, including future-thinking and simulation (Neck & Manz, 1992). This involves a rehearsed imagined version of a future action, and in a variety of contexts has proved to have a positive effect on outcomes (Neck & Manz, 1992).

2.4.3 Relevance and outcomes of self-leadership behaviour

The relevance of self-leadership is that self-leadership behaviours are considered to be both part of an individual's nature and an aspect to be nurtured. There are some individuals that may naturally employ self-leadership behaviours, while in others these behaviours can be modelled and transferred (Andressen et al., 2012; Neck & Manz, 1996). The nature and nurture attribute of self-leadership renders it replicable, and since the positive repercussions of self-leadership are sought-after, the self-leadership attributes can be developed in every team member. Self-leadership strategies are uncomplicated and seamless to incorporate (Kör et al., 2021) and, when witnessed in others, are inspirational to adopt (Manz & Sims, 1991). Marques (2017) assessed the path to learning self-leadership behaviour to involve several supportive actions, for example unlearning old habits and adapting mindset, and not necessarily to be seamless.

Self-leadership can positively affect self-efficacy (Kariuki, 2020), job performance, job satisfaction, outcome expectancy (Boss & Sims, 2008), productivity, absenteeism (Abid et al., 2021), engagement (Knotts & Houghton, 2021), well-being and relationships (Fitzgerald, 2021). Self-leadership increases individual agency, confidence and responsibility (Ugoani, 2021). Neck and Houghton (2006) identified several predictable performance outcomes pertaining to self-leadership, such as "commitment, independence, creativity, innovation, trust, team potency, positive affect, job satisfaction, psychological empowerment and self-efficacy" (p. 285). The higher the self-leadership, the higher the levels of work engagement (Harunavamwe et al., 2020; Knotts & Houghton, 2021). The self-management strategies inherent in self-leadership behaviour lead not only to positive performance, but also to greater job satisfaction (Politis, 2006) and job enthusiasm (Neck & Houghton, 2006). The act of self-management through setting specific, attainable and challenging goals has been empirically connected with enhanced performance (Godwin et al., 1999; Neck & Houghton, 2006). Megheirkouni

(2021) associated the self-leader's dedication to learning and continuous improving to positively affect individual performance. Kalra et al. (2020) asserted that self-leadership behaviours enable greater specialised, general and team performance. The ability to adapt a skillset to perform in new arenas is also attributed to individuals that are self-led (Marques-Quinteiro et al., 2019).

Decentralised work teams may lead to the team feeling fragmented, disorganised and distant from each other (Kujala et al., 2016). The salience of self-leadership skills in contemporary organisations is relevant, especially in the context of decentralised structures and high dependence on individual initiative (Houghton & Neck, 2002). Contemporary work environments require that employees act with proactivity and initiative, as opposed to simply reacting (Phelan & Young, 2003). Andressen et al. (2012) analysed the association between virtual teams and self-leadership behaviours and found that high levels of self-leadership enabled greater team cohesion and motivation. The presence of self-leadership behaviours in a virtual team increased the levels of motivation and positively affected the overall team performance (Andressen et al., 2012). Castellano et al. (2021) affirmed the positive relationship between high self-leadership behaviours and successful autonomous work environments. Individuals with high levels of self-leadership can self-supervise and achieve positive results in a variety of work conditions, including as part of virtual teams (Castellano et al., 2021).

Self-leadership is positively associated with well-being and mental health advantages (Fitzgerald, 2021), where individuals with higher levels of self-leadership attributes are correlated with lower levels of anxiety and higher levels of optimism. According to Fitzgerald (2021), self-leadership is also associated with positive psychosocial outcomes that translate to a higher occurrence of positive relationships. Self-efficacy is considered one of the main drivers of self-leadership behaviour, directly associated with greater performance (Kariuki, 2020). Self-efficacy refers to the individual belief in own capability to successfully perform a task or exhibit a behaviour (Prussia et al., 1998). Bandura (1997) spearheaded a body of work regarding self-efficacy, which is defined as an individual's perception of ability to overcome challenges. Self-efficacy includes the aspects that calibrate thinking, prompting and acting (Bandura, 1997). Self-efficacy is underpinned by self-influence, development of mastery, goal-setting, self-regulation and self-leadership (Harrison et al., 1997). Self-efficacy is based on actual historic performance, observation of others, own persuasiveness and physiological perceptions (Neck & Manz, 1992). The three main self-leadership strategies all contributed to an increase in self-efficacy (Kalra et al., 2020; Megheirkouni, 2021). Some authors separate the aspect of 'reward' into a third component (Millikin et al., 2010), while others continue to keep these as sub-components, both designed as, behaviour or cognitive strategies (Godwin et al., 1999; Manz & Sims, 1991).

According to Asurakkody and Hee (2020), high levels of self-leadership behaviour are strongly correlated with prolific knowledge-sharing activities. Knowledge sharing is also regarded as a foundational aspect of innovation success (Nonaka & Takeuchi, 1995). Kör (2016) studied the innovative work behaviour of individuals with high self-leadership attributes and confirmed a positive relationship. Through individual-dependent thinking and acting (Alves et al., 2006, p. 342), self-leaders challenge the organisational status quo in finding improved ways in which to perform (Kör, 2016) and enhance innovative work behaviour (Stashevsky et al., 2006).

2.4.4 Self-leadership and innovation

A positive correlation has been found between individual innovation and high deployment of self-leadership behaviours (Gomes et al., 2015; Stashevsky et al., 2006). Innovation tends to flourish amid a culture of self-leadership behavioural training and nurturing (Phelan & Young, 2003). According to Du Plessis (2019) the literature on the relationship between self-leadership and innovation tends to be sparse, despite the argument that self-leadership capabilities are most appropriate where the need for creativity and adaptation is an imperative. According to Goldsby et al. (2021), the innovation process entails groundbreaking creative progress that are achieved through persistence, “which can include many iterations of trial and error” (p. 6). Goldsby et al. (2021) further argued that self-leadership skills and mindset are central to innovation performance.

Creative self-leadership is defined as the internal leadership process of deliberately reviewing and redirecting one’s thoughts and intentions toward creating desired change, goal attainment, and self-reflection (Phelan & Young, 2003). Creative self-leadership involves cognitive and intentional working towards change and innovation and manifests through three different strategies, being:

- changing thinking through challenging mental models;
- ingenious mental imagery; and
- reflective self-talk to enhance successful goal achievement (Phelan & Young, 2003).

The creative aspect of self-leadership aligns with what Stashevsky et al. (2006) defined as the first part of the innovation process, namely that innovation demands constructive thought patterns, as this enables most effective problem solving and solution identification. Innovation champions are “those who spontaneously emerge to promote innovation”, and are also considered “informal transformational leaders” (Howell & Higgins, 1990, p. 336). Since self-leaders are considered innovation champions (Howell, 2005), they are ideally utilised in the second-stage of innovation, which involves idea lobbying and aggregating support (Stashevsky et al., 2006).

Individual workplace innovation is considered a complex three-stage process, which is initiated on individual level: (1) problem recognition with new or adopted potential solutions; (2) promotion of these solutions through legitimacy in and outside the organisation; (3) a model or prototype is produced for experimentation purposes (Stashevsky et al., 2006). The reflection and adjustment mechanisms inherent in those who score high on self-leadership (Politis, 2006) dovetail with the solution-oriented steps outlined by Stashevsky et al. (2006). Self-leadership is the development of independence and self-sufficiency to successfully achieve goals (Erkutlu, 2012). An innovative undertaking often entails instability, uncertainty, frustration and obstacles, which makes it a reluctantly embraced process (Stashevsky et al., 2006). The elements intrinsic to self-leadership develop the individual's attitudes to see innovation as a positive challenge or riddle to solve (Gomes et al., 2015). Innovative behaviour can be bolstered through "efforts directed toward augmenting behaviour-focus, natural reward, and constructive thought strategies in organisational members" (Stashevsky et al., 2006, p. 86). Therefore, while the literature that directly connects self-leadership with innovation seems to be sparse, the dimensions of each of these separate constructs overlap in that high self-leadership implies behaviours and strategies that provide the solutions required to pursue innovation success with apt determination (Asurakkody & Hee, 2020; Gomes et al., 2015; Stashevsky et al., 2006).

2.4.5 Self-leadership and transformational leadership

The empirical connection between transformational leaders and the self-leadership of their followers seems to be limited, while there is sufficient evidence in the literature that the two concepts should be linked (Furtner et al., 2013). Both self-leadership and transformational leadership are included in leader-support-related concepts (Cheong et al., 2019). Ugoani (2021) was of the opinion that self-leadership and transformational leadership both conceptually espouse participative decision making. Browning (2018) concurred with the close association between self-leadership and transformational leadership.

Tekleab et al. (2008) studied the relationship between self-leadership and transformational leadership, and self-leadership and empowering leadership. An empowering⁵ leadership style is directly associated with the promotion of self-leadership behaviour and has a very narrow focus, especially compared to transformational leadership (Tekleab et al., 2008). Tekleab et al. (2008) found that a transformational leader with high levels of self-awareness showed a degree of correlation to

⁵ While the research comparing empowering leadership with transformational leadership is sparse, the concepts may have overlapping elements, but essentially are two different leadership phenomena (Tekleab et al., 2008).

self-leadership behaviours in followers. Furtner et al. (2013) assessed the relationship between self-leadership and other leadership styles and concluded that self-leadership is positively connected to active leadership styles like transformational leadership, as well as transactional leadership. Zhang et al. (2021) established the connection between transformational leadership and self-leadership with 'role identity' as a mediator. Andressen et al. (2012) studied the effect of transformational leadership on followers to ascertain whether a transformational leadership style promotes self-leadership behaviour, and found a positive association between transformational leadership and self-management, as well as transformational leadership and follower empowerment. Self-leadership mediates between transformational leadership and work motivation (Andressen et al., 2012).

2.5 LEADER-MEMBER EXCHANGE: INTERNAL RELATIONSHIPS

Leader-member exchange developed over the last fifty years (Gottfredson et al., 2020). It is the second most prolifically researched topic in the area of leadership (Epitropaki et al., 2020) and the primary construct to research relational quality (Dulebohn et al., 2017).

2.5.1 Definition and development of leader-member exchange

Leader-member exchange (LMX) is intrinsically the dyadic relationship between the leader and follower (Maksom & Winter, 2009) and is highly sought-after by leaders, followers and the organisation as a whole (Othman et al., 2010). Leader-follower relations involve deliberate one-on-one (Howell & Hall-Merenda, 1999), interpersonal relationships between a leader and a follower (Abu Elanain, 2014). Liden et al. (1997, p. 48) defined leader-member exchange as "a working relationship that is characterised by the physical or mental effort, material resources, information, and / or emotional support exchanged between the leader and the member." Leader-member exchange deems the dyadic relationship between and leader and a particular follower to be unique (Dulebohn et al., 2012). Leader-member exchange is defined according to high or low quality, trust and mistrust, respect or lack of respect, and loyal or disloyal (Agarwal et al., 2012; Morrow et al., 2005). A high-quality exchange is characterised by high levels of trust, liking, respect (Mahsud et al., 2010), loyalty, reciprocation and commitment (Dulebohn et al., 2012). A low-quality exchange typically refers to a situation where the leader and follower restrict the interactions to what is formally and contractually agreed upon, focusing on "pay for performance" (Blau, 1964, cited in Dulebohn et al., 2012, p. 1717). Bennis and Biederman (1997) proposed that effective leaders and effective groups co-create each other, through a process that occurs over time and requires resources (Maksom & Winter, 2009; Mahsud et al., 2010). The leader-follower relationship involves a layering process of events (Chen et al., 2014). The relationship is initiated, perceptions are formed, reactions ensue, dyadic interaction is re-evaluated, perceptions and expectations are adjusted (Dulebohn et al., 2012). According to

Nahrgang et al. (2009, p. 262), the leader-member relationship initially develops based on regular interactions and then plateaus when the relationship reaches a mature stage. According to Liden et al. (1993), the leader-member relationship is established in the first two weeks of interaction, and improvement occurs as the members of the dyad get to know each other. The initial phases of a leader-member exchange relationship are primarily focused on testing each other and establishing trust (Mascareño et al., 2020). Interpersonal trust is considered fundamental to organisational effectiveness (Gillespie & Mann, 2004).

Leader-member exchange theory was originally known as vertical dyad linkage theory by Dansereau, Cashman and Graen in 1973 (cited in Gottfredson et al., 2020). Vertical dyad linkage theory was based on a dyadic exchange, with the aspect of leader discrimination between follower in-group and out-groups (Krishnan, 2005). Leaders tend to invest more in the relationships with high-quality exchanges, referred to as the in-group, and less time with weaker exchange relationships, referred to as the out-group (Krishnan, 2005). A leader would develop differentiated relationships with followers based on individual exchange developments (Gottfredson et al., 2020). In 1986, the term 'leader-member exchange-theory' was coined by Dienesch and Liden (Gottfredson et al., 2020), which involved an emphasis on the "differentiated exchanges" (p. 4) between leaders and followers. By the late 1990s, leader-member exchange theory evolved from its emphasis on leader-member exchanges and shifted more towards the "follower's perceptions of the quality of the relationship between leader and follower" (Gottfredson et al., 2020, p. 5). The repositioning to follower perceptions added a third theoretical connection to leader-member exchange theory, namely relational leadership theory (Gottfredson et al., 2020). According to Uhl-bien (2006), relational leadership theory has a focus on relational tendencies and social systems.

The two theories that underscore leader-member exchange are: (1) role theory; and (2) social exchange theory (Abu Elanain, 2014). Role theory purports that "individuals have social positions and hold expectations for the behaviours of themselves and others" (Abu Elanain, 2014, p. 112). Role theorists agree that role theory involves "characteristic behaviors, parts to be played, and scripts for behavior" (Biddle, 1986, p. 68-69). According to role theory, leaders test their followers in a series of exchanges (Gottfredson et al., 2020) in the form of work assignments called 'role-making episodes', where the degree of task completion builds confidence for future tasks (Liden & Maslyn, 1998, p. 44). The sender and receiver roles will affect each other in a multiple feedback loop - where the sender's role will affect the receiver's role, which in turn will affect the sender's role (Abu Elanain, 2014). According to role theory, the leader will delegate tasks according to perceived follower-competence (Byun et al., 2017). The exchange involves the leader providing the follower with required resources

to enable further work performance (Liden & Maslyn, 1998), including attention, support, time, energy, and information (Gottfredson et al., 2020). The follower's reciprocal response to the leader includes work performance (Epitropaki et al., 2020), extra effort, a positive attitude, and essentially no job-related problems (Gottfredson et al., 2020). Leader-member exchange theory also forms a subset of social exchange theory, which proposes that a leader-follower relationship is one that develops over a period of time and involves social elements - as opposed to economic elements - like personal obligation, gratitude and trust (Abu Elanain, 2014). The term 'social exchange theory' was first coined by Blau in 1964. It distinguishes between: (1) social exchange based on trust, obligation and gratitude; and (2) economic exchange which involves a contractual obligation (Low & Li, 2019).

Liden and Maslyn (1998) established four types of leader-member exchanges between leaders and followers:

- Contribution, where the follower performs with excellence and the leader reciprocates by providing prized work-enabling resources like funds or equipment.
- Mutual loyalty gets established over time.
- Mutual affect that may lead to a mutual friendship.
- Professional respect that may lead to access and mentorship.

Leader-member exchange theory is often criticised for containing too many elements. According to Gottfredson et al. (2020), leader-member exchange is an imprecise construct that, despite its regular use, measures four related but respective concepts:

- Differentiation of relationships
- Differentiation of exchanges
- Relational quality
- Exchange quality

According to Henderson et al. (2009), the premise of leader-member exchange theory is the development of differential relationships among leader-subordinates, and the exchange is: (a) a method of establishing the relationship strength in the first place; and (b) then determining the quality of exchange going forward. Huang et al. (2008) asserted that leader-member exchange theory should shift from a descriptive to prescriptive approach, thereby shifting away from how leader-member roles are made or routinised to examine thought processes that enable the formation or non-formation of a quality dyad.

2.5.2 Outcomes of leader-member exchange

Dulebohn et al. (2017) grouped the outcomes of leader-member exchange along two main themes, namely: (1) attitudinal or perceptual; and (2) behavioural. Other authors assert individual aspects as outcomes to either high or low leader-member exchange. These outcomes of leader-member exchange are set out in Table 4

Table 4

Leader-Member Exchange Outcomes

Attitudinal / Perceptual	Behavioural
<ul style="list-style-type: none"> • Organisational commitment (Ansari et al., 2007; Henderson et al., 2009; Mahsud et al., 2010) • Job satisfaction (Ansari et al., 2007; Fisk & Friesen, 2012; Harris et al., 2009; Henderson et al., 2009; Mahsud et al., 2010) • Job dedication (Kang & Stewart, 2007) • Turnover intention (Ansari et al., 2007; Henderson et al., 2009; Mahsud et al., 2010) • Perceived empowerment and motivation (Emery et al., 2019; Kang & Stewart, 2007; Martin et al., 2016) 	<ul style="list-style-type: none"> • Job performance (Ansari et al., 2007; Henderson et al., 2009; Mahsud et al., 2010) and increased “content-specific citizenship” (Ansari et al., 2007, p. 692) • Productivity (Robinson & Harvey, 2008) • Organisational citizenship behaviours (Henderson et al., 2009) • Occupational safety and reduced on-the-job accidents (Ansari et al., 2007) • Creativity (Mascareño et al., 2020; Sparrowe & Liden, 2005,) • Innovative behaviours (Basu & Green, 1997; Kang & Stewart, 2007) • Employee engagement (Agarwal et al., 2012)

Many of the outcomes of high leader-member relational quality moderate between leader-member exchange and aspects of innovativeness (Kang & Stewart, 2007). Leader-member exchange tends to improve organisational commitment (Luo et al., 2014; Morrow et al., 2005; Wang et al., 2005). Organisational commitment is positively correlated with performance excellence (Wang et al., 2005). Organisational commitment is contingent on three aspects: (1) emotional attachment, identification and involvement in the organisation, also known as affective commitment; (2) perceptions around opportunity cost - weighing up benefits of staying versus leaving; and (3) obligation to remain, also known as normative commitment (Meyer & Allen, 1991, as cited in Ansari et al., 2007, p. 693). In cases where a leader: (a) develops high exchange relationships; and (b) model commitment, these followers will emulate organisational commitment at a higher prevalence (Dulebohn et al., 2017). Affective commitment has proved to have a stronger positive effect on positive work behaviours such as attendance, performance and organisational citizenship behaviour (Luo et al., 2014). While every leader-member dyad differs from the next (Bakar et al., 2009), dyadic exchanges all contribute to greater collective team commitment (Den Hartog et al., 1999).

Job satisfaction is multidimensional and includes work fulfilment, connection with and affinity of co-workers and leaders, remuneration, and scope for promotion (Dulebohn et al., 2017). The more a supervisor likes and supports a subordinate, the more the subordinate tends to invest back into the relationship (Dulebohn et al., 2017). Fisk and Friesen (2012) concurred with the positive relationship between job satisfaction and high-quality dyadic exchange and pinpointed the leader's job satisfaction as an inspiration to followers to also espouse job satisfaction as a result of leader influence. Harris et al. (2009) established a connection with a high exchange relationship and job satisfaction owing to the follower having sufficient confidence to voice issues with the leader, resulting in greater levels of job satisfaction. The higher the leader-follower relationship quality, the higher the follower's confidence to approach the leader with work obstacles, thereby resolving them faster and progressing to the next work aspect (Harris et al., 2009).

Turnover intention is defined as "conscious wilfulness, or plan, to leave an organisation" (Dulebohn et al., 2017, p. 155). Leader-member exchange relationships can positively affect follower retention rates (Ansari et al., 2007; Henderson et al., 2009; Mahsud et al., 2010). Dulebohn et al. (2017) argued that a positive leader-member exchange merely reduces turnover intentions. Abu Elanain (2014) found a more sceptical picture regarding the positive association between high leader-member exchange and low employee turnover. In practice, the aspects that actually influence turnover are: (1) role conflict; (2) organisational commitment; and (3) job satisfaction (Abu Elanain, 2014).

Leader-member exchange relationships that are of high quality have as an outcome greater autonomy for in-group members, with greater latitude and the absence of micro-managed oversight (Basu & Green, 1997). Where followers are empowered, the followers sense a greater degree of empowerment and confidence in their leaders (Cheong et al., 2019). Empowered followers are motivated through a sense of control over their work activities and outputs (Emery et al., 2019). Empowerment in an organisational setting leads to enhanced work performance (Kang & Stewart, 2007). High-quality exchange, especially originating from the leader, benefits collective identity formation in the work group, increasing electronic exchanges in the group to increase group engagement, and this leads to psychological empowerment (Hill et al., 2014).

High-quality exchange relationships are consistently predictive of high work quality and high-performance (Wong & Berntzen, 2019). Job performance pertains to in-role performance as the completion of job specifics, and increasingly includes organisational citizenship behaviour as a form of extra-role performance (Dulebohn et al., 2017). Job performance is not only performing in terms of specific function, but also making a contribution to overall organisational success (Harris et al., 2014). Work engagement is defined as a state of mind of dedication, immersion, involvement, enthusiasm,

and satisfaction regarding work tasks (Zhu et al., 2009). Engaged employees are physically, emotionally and cognitively associated with their particular work role, which is largely developed by the leader via trust, respect and a sense of obligation (De Oliveira & Da Silva, 2015). The higher the relational quality, the higher the engagement (Agarwal et al., 2012). Employee engagement is also connected to innovation success, in particular in the grocery retail sector (Albors-Garrigos, 2020). Engagement can be considered a mediator between leader-member exchange and innovation performance (Vila-Vázquez et al., 2020).

The support, confidence, resources and autonomy received in high-quality exchange relationships play a significant role in establishing an organisational culture conducive to innovation performance (Tordera & González-Romá, 2013). Innovativeness or innovative work behaviour is promoted through leadership, follower problem-solving, work-group relations, distributive and procedural justice, supervisor supportiveness, self-leadership, job skills, and work engagement (Agarwal et al., 2012). Innovative work behaviour is defined as the “intentional creation, introduction, and application of new ideas within a work role, group or organisation to benefit role performance, a group or organisation” (Agarwal et al., 2012). The literature that supports the relationship between leader-member exchange and innovation remains sparse (Mascareño et al., 2020; Tordera & González-Romá, 2013). Personal initiative is strengthened by a high leader-member exchange, with an established positive relationship between initiative and innovation performance (Estel et al., 2019). Many of the outcomes of a high leader-member exchange fulfils mediation towards innovation (Kang & Stewart, 2007; Mascareño et al., 2020). In addition, a leader that has a series of good follower relationships or exchange dyads is likely to be more effective in own performance capacity as a leader (Mahsud et al., 2010). Leader-member exchange theory holds noteworthy outcomes for the leader’s effectiveness in the light of achieving innovation outcomes (Mascareño et al., 2020).

2.5.3 Antecedents of leader-member exchange

The literature on antecedents of leader-member exchange is sparse (Maslyn et al., 2017; Schyns et al., 2005). According to Maslyn et al. (2017), the sparse literature on leader-member exchange determinants results from the assumption that relationships start on a blank slate.

Terpstra-Tong et al. (2020) referred to the macro set up or society as a relevant antecedent to leader-follower exchange. Macro or societal factors are the society or culture in which an organisation is nestled. South Africa is considered predominantly collectivist, with a minority presence of individualistic subcultures (Van Zyl et al., 2018). According to Triandis (1994), the maintenance of a harmonious leader-follower relationship is considered to be particularly relevant in a collectivist

society. Leader-member exchange research is sparse across different geographical settings (Terpstra-Tong et al., 2020), especially in the case of South Africa. Leader-member exchange theory is based on a Western paradigm, with non-Western studies done in Japan, China, India, Jordan, Saudi Arabia and UAE (Abu Elanain, 2014). The literature acknowledges the similarity and difference between Western leader-member exchange and indigenous Chinese leader-member *guanxi*⁶ (LMG), where the latter is a focus on the personal relationships between leaders and members (Chen et al., 2014; Low & Li, 2019). Western leader-member exchange is initially and primarily a focus on working relationship formation and state, which may, over time, develop into a personal relationship (Chen et al., 2014). The significance of LMG as a relative of leader-member exchange may explain aspects within the South African context, since South Africa is not entirely Western in social construct with aspects of collectivist orientation of relevance (Van Zyl et al., 2018). A variation of *guanxi* may exist in other cultures (Smith et al., 2012).

The two main determinants of leader-member exchange are identified as: (1) relationship tenure; and (2) span of leadership. The 'relationship tenure' refers to the duration of the leader and member working together, and the 'span of leadership' considers the number of followers per leader (Schyns et al., 2005). The leader generally plays the initiation role when a leader-member dyad develops (Dulebohn, et al., 2012), and the initial impressions of the follower require an element of "trust prediction" regarding how a follower will respond (Kelley & Bisel, 2014, p. 435). Trust is essential in leader-member exchange; it builds over time and is reciprocal. The leader as well as the follower develop trust (Martin et al., 2016). Leader sensemaking in terms of trust is best described through Kelley and Bisel's (2014, p. 438) research on leader trust stages, shown in Table 5.

⁶ Guanxi is a critical part of interpersonal relationships in Chinese cultures; simply defined as 'connections' and more robustly defined as "an informal particularistic personal connection between two individuals who are bounded by an implicit psychological contract to follow the norm of guanxi, such as maintaining a long-term relationship, mutual commitment, loyalty and obligation" (Chen & Chen, 2004, p. 306).

Table 5*Leader-to-Member Narrative Sensemaking of Trust*

Narrative element	Defining feature	Indicative leader communication practice	Doubt communicated
Selection	Beginnings marked by vetting	Critical listening, explicit questioning, verification of task-related abilities	Leader communicates trust but also doubt implicitly
Probation	Early testing	Frequent and close evaluation, instruction of procedures, micro-managing	
Escalation	Intensifying experimentation	Complex and frequent delegation, periodic evaluation	
Confederation	Mature trusting	Diminished task-related messaging, self-management encouraged	Leader communicates trust, often implicitly
Jeopardy	Post mature trusting testing	Micro-managing, reduced delegation, critical evaluations	Leader communicates doubt, at times explicitly
Redemption	Post mature trusting restoring to trustworthiness	Similar to 'Confederation'	
Termination	Post-trustworthiness	Discursive closure	Leader stops communication because of overriding doubt

Note. Reproduced from Kelley & Bisel, 2014.

Table 5 commences with phases of selection, probation and escalation, where the leader juxtaposes the balance of trust and doubt. During these initial phases, the follower gets entrusted with a task, and successful completion is critical. While there may be some room for error or enquiry or misunderstandings, the window of time to correct is far from infinite (Kelley & Bisel, 2014). After a period of time, trust is cemented and the relationship has more 'give' - most high-quality relationships remain at the stage of "confederation" or mature trust; however, where trust-progression fails and doubt overrides, these relationships tend to shift to out-group relationships (Kelley & Bisel, 2014). On an individual level, individual leader attributes such as leadership style and their own relational strength with their superiors are considered relevant to how leader-member dyads form (Henderson et al., 2009). The levels of leader empathy have been connected to high leader-member exchange relationships (Mahsud et al., 2010).

Although leaders tend primarily to determine the leader-member exchange quality, followers can also affect the nature of the relationship (Dulebohn, et al., 2012). Individual follower characteristics such as competence, extroversion, perceived similarity, influence processes (Aryee & Chen, 2005),

dependability, similarity, agreeability and a positive disposition have been listed as general antecedents of leader-member exchange (Mahsud et al., 2010). Nahrgang et al. (2009) differentiated between two types of follower characteristics that influence leader-member exchange relationships, namely: (1) initial interaction, involving personality characteristics; and (2) behavioural influences, including performance-related responses.

Personality plays a noteworthy role in the establishing of a leader-member relationship, for example, followers with a positive inclination tend to be perceived by their supervisors in a more favourable light (Clauss & Bouncken, 2019; Dulebohn et al., 2012; Dulebohn et al., 2017). According to Maslyn et al. (2017), attachment styles are relevant in how leader-member exchange relationships form. High levels of anxiety have been associated with low leader-member quality, while high levels of confidence are correlated with high-quality exchange relationships (Maslyn et al., 2017). Extraversion, as a follower trait, drives interaction and followers who actively seek out interaction with leaders, and may stimulate the leader-member exchange to develop (Schyns et al., 2008). The leader therefore needs to take specific follower personality traits into consideration and work with these attributes to develop optimal interaction and performance (Zhu et al., 2009). Dulebohn et al. (2017) found that while a follower liking their leader is not an assurance that the relationship is of high quality, there seems to be a significant amount of evidence to support affinity as a driver of relational strength. Interpersonal elements like perception of similarity, self-promotion, ingratiation, assertiveness and trust, among other tactics, are further predictors of the leader-member exchange relationship (Dulebohn et al., 2017). The leader-member exchange relationship is associated with the ability of both the leader and the follower to communicate effectively (Bakar et al., 2009).

Followers, at a minimum, should be competent or have the necessary expertise to fulfil their job requirements (Bernerth et al., 2007; Dulebohn et al., 2012; Dulebohn et al., 2017). Othman et al. (2010) accentuated the flaws in the initial establishing of a leader-member relationship. A bias in follower assessment can lead to an underestimation of follower abilities and a low-quality relationship can be established (Othman et al., 2010). By the same token, a follower can create a favourable impression with a leader, and thereby establish a relationship geared for higher quality (Othman et al., 2010). Followers with an internal locus of control have a higher propensity to engage in initiative-based behaviours, like seeing feedback and maintaining good communication (Dulebohn et al., 2012). In addition, an internal locus of control will satisfy the follower's need for situational control by seeking out a healthy exchange with the leader (Schyns et al., 2008).

The strength of desire or need for growth of followers are strongly related to the development of a high exchange relationship (Schyns et al., 2008). Leaders play a critical role in promoting efficiency and

efficacy in a proliferation of virtual work environments, where the level of leader-member exchange becomes highly salient when there is a high geographical dispersion (Hill et al., 2014). Wong and Berntzen (2019) found that leader-member exchange tends to lose its impact where teams are distributed. The higher the electronic or digital dependence, the more challenging it is for high-quality exchanges between leader and follower to develop (Mahsud et al., 2010). Where leader-member relationships are strong and established, the leader-member dyad has shown to reverse adverse effects caused by geographic distribution in work teams (Hill et al., 2014).

The organisational influences that enable greater leader-member exchange literature is considered sparse (Aryee & Chen, 2005). Henderson et al. (2009) confirmed that on an organisational level, aspects like culture, structure or architecture and human resources practices has an effect on how relationships form. Henderson et al. (2009) further added the relevance of the group or department in which a team is positioned. The organisational context in which a leader-member dyad is placed will have an effect, for example, where the organisation environment provides scope for a leader to treat followers differently (Aryee & Chen, 2005). In Aryee and Chen's (2005) assessment, a 'positive organisational climate' emerged to be a significant determinant of high leader-member exchange. Organisational settings with too many members, temporary fluctuating followers, widely dispersed work areas and limited leader power have all been associated with lower levels of leader-member exchange (Mahsud et al., 2010). Positive organisational culture has been associated with a higher occurrence of high-quality leader-member relationships (Mahsud et al., 2010).

Terpstra-Tong et al. (2020) studied the effect of values and culture as predictors of the leader-member exchange relationship on three levels, namely micro (individual), meso (organisational) and macro (societal). Micro and meso effects on leader-member exchange are significant, specifically where leaders and followers share values and organisational culture is conducive to forging relationships. The micro or individual element is deemed a significant antecedent to leader-member exchange, specifically where leaders and followers share values and organisational culture is conducive to forging relationships (Terpstra-Tong et al., 2020).

2.5.4 Leader-member differentiation dynamics

Differentiation dynamics refer to two main aspects regarding leader-member exchange. The first aspect is the manner in which the members of a dyad experience their specific relationship; for example, a leader might assess the strength of the relationship differently to how the follower would rate it (Zhou & Schriesheim, 2009). The second aspect is the differentiation from one dyad to the next dyad, with a common leader to these differing dyads (Chiniara & Bentein, 2018).

Leaders and members prioritise different aspects in their dyadic relationship (Zhou & Schriesheim, 2009). Leaders tend to be focused on work-centric issues, for example, whether followers are team players, reliable, committed and self-directed (Zhou & Schriesheim, 2009). Followers tend to be transfixed with social or developmental needs, for example, whether there is a mutual understanding between themselves and their direct leaders, whether they are given opportunities to learn, whether their leaders are friendly (Huang et al., 2008). Differing expectations such as these mean that a satisfactory relationship is unlikely to be unilateral in most instances (Zhou & Schriesheim, 2009). According to Ang et al. (2009), it is more common than not for a leader and a follower in the same dyad to hold a different perception of the strength of their relationship. Meindl (1995) argued that a true reflection of relational strength should be obtained from the follower perspective, and not the leader perspective.

Leader-member exchange differentiation is defined as the “degree of variation that exists when a leader forms relationships with different quality with different members” (Chiniara & Bentein, 2018, p. 334). A leader-member exchange entails a bespoke relationship, as opposed to a generic approach towards followers (Dulebohn et al., 2017). A leader may have differentiated quality relationships with each follower, where the “degree of the within-group variation of the different quality levels of leader-member exchange is termed as leader-member exchange differentiation” (Chen et al., 2014, p. 612). ‘In-group’ and ‘out-group’ dynamics also feature strongly in the literature regarding leader-member relationships (Abu Elanain, 2014). In-group is characterised by high-quality relationships, while the out-group is involved in a low-quality exchange (Terpstra-Tong et al., 2020). In-group exchanges progress beyond the employment contract (Abu Elanain, 2014). In-group relationships are marked by loyalty and possible obligatory devotion (Terpstra-Tong et al., 2020).

Perception of leader-member exchange differentiation is also a valid component for consideration. If an individual deems a leader-exchange with a peer to be of higher exchange, this may have an adverse effect on the individual’s self-evaluation (Chiniara & Bentein, 2018). Perception of leader-member exchange differentiation has a high tendency to affect self-efficacy (Emich, 2014). According to Schyns and Wolfram (2008), followers can often superimpose their perception of the organisation onto their leader and, depending on their perception of the organisation, hold the leader to particular account, which may either result in an ideal or unideal exchange.

At the start of a dyadic relationship between a leader and a follower, there is a progression of exchange frequency and vigour, where a particular follower is assessed, which adjusts perception and future interaction, making the initial task assignment considerable (Dulebohn et al., 2012). Initial interactions are salient and involve “thin slices” of behaviour (Nahrgang et al., 2009, p. 264). Initial

assessment does not mean the follower has only one chance to prove their worth, but it emphasises initial interactions as the foundation for future exchanges (Nahrgang et al., 2009). A positive dyadic exchange is likely when the follower is “perceived to be competent and dependable”, in addition to some other source of similarity, be than demographic, values or attitudes (Mahsud et al., 2010, p. 562). Liden and Graen (1980) assert that where an exchange is of high quality, the leader continues to treat these members with additional support in task completion, and so the follower continues to excel, and the leader entrusts with greater responsibility - and so the bond keeps developing and growing in strength. In contrast, low exchanges tend to receive low leader involvement, with a downward spiral continuing, especially when a high-quality relationship runs concurrently and proves to be worthy of leader time investment. Over a period of time, in-group members are trusted increasingly, with more autonomy to get on with their work (Basu & Green, 1997).

A leader-follower relationship is never entirely independent and strongly connected to the other leader-member relationships, since each leader-member dyad is “embedded in the larger social system of the workgroup” (Harris et al., 2014, p. 322). The essence of Festinger’s (1954) social comparison theory is that human beings have an innate need to compare themselves to others, which in turn influences their approach and conduct (Chiniara & Bentein, 2018, p. 334). A team member will compare their own leader-member relationship strength with the other leader-member dyads in the unit, which will influence this team member’s behaviour and attitude (Harris et al., 2014).

A predominant body of leader-member exchange literature assumes that differential dyadic relationships are unproblematic, while there certainly are dysfunctional consequences to consider (Othman et al., 2010). A leader is likely to adjust allocation of resources and rewards and distribute them unfairly, favouring the in-group (Scandura, 1999). Fairness remains a sensitive matter and is largely ignored in the literature on leader-member exchange (Othman et al., 2010).

A dyadic relationship between a leader and follower may range in strength and positive reciprocity (Day et al., 2013; Zhang et al., 2015). In contrast, there are cases of dysfunction where the leader-member exchange is in a negative cycle, involving mutual disrespect, curtailed communication, misunderstandings, and lack of support and commitment (Othman et al., 2010). Othman et al., (2010, p. 341) accredited adverse behaviour to: (1) flawed initial member assessment by the leader; and (2) members using distortionary “upward influence tactics” to create a positive impression of themselves. In his seminal article on justice and fairness in leader-member exchange, Scandura (1999) elevated the importance of fairness in building a leader-member exchange theoretical picture. ‘Justice perceptions’ refer to how individuals self-assess how they are being treated in the workplace with strong associations to feelings of well-being (Luo et al., 2013; Herr et al., 2018).

The leader in the leader-follower dyad plays a crucial part in ensuring that fairness prevails to include employee voice, in order to obtain the best return on the entire team's time and work investments (Bhal & Ansari, 2007). The better the perceptions of fairness, the better employee satisfaction and team commitment tends to be (Othman et al., 2010). Better team commitment leads to lower levels of social loafing and higher levels of performance (Luo et al., 2013, p. 463). Social loafing involves the degradation of individual motivation when working collectively and, more particularly, when being assessed as a group and not at individual level (Karadal & Saygin, 2013). A team member develops low motivation which leads to low productivity, based on perception of position within the group (Emich, 2014). Social loafing is "fatal to service quality" (Luo et al., 2013, p. 463).

2.5.5 Leader-member exchange and transformational leadership

The strong theoretical association between transformational leadership and leader-member exchange exists to the degree that transformational leadership has been described as the "operational form" of leader-member exchange (Hasib et al., 2020, p. 1201). Some scholars have advocated for the merging of the two concepts, while others confirm that transformational leadership and leader-member exchange are distinct (Anand et al., 2011). Both transformational leadership and leader-member exchanges are rooted in the social exchange process involving trust, reciprocation and respect (Anand et al., 2011; Gerstner & Day, 1997). A transformational leader's success is deeply rooted in follower development and growth (Hasib et al., 2020; Nandedkar & Brown, 2018). Transformational leadership acts as a determinant of the "creation of strong, enduring" leader-member exchange relationships (Molines et al., 2020, p. 7).

Transformational leaders are known to pay individual attention to their followers (Ergeneli et al., 2007). Leader-follower exchange literature purports that a high exchange relationship is marked with follower support, recognition and development (O'Donnell et al., 2012). Many of the transformational leadership outcomes are enabled by the individualised leader-follower relationships (Deluga, 1992). Deluga (1992) studied the association between transformational leadership and leader-member exchange and established the two transformational leadership factors, namely charisma and individualised consideration, predicted in high leader-member exchange relationships. The 'relations'-oriented component of transformational leadership tends to have a far greater impact than 'change'-oriented behaviours; for example, individualised consideration is more relational in nature, where inspirational motivation and intellectual stimulation are more anchored to 'change' (Yukl et al., 2009). Yukl et al. (2009) further probed whether leader-member exchange is activated by any form of leader relations-oriented behaviours, and not exclusively activated by transformational leadership.

Basu and Green (1997) were unable to establish a connection between transformational leadership and quality of leader-member exchange; however, they were able to establish a strong correlation between high leader-member exchange and innovative behaviours. Howell and Hall-Merenda (1999) established a positive relationship between transformational leadership and leader-member exchange and argued for the revision of Graen and Uhl-Bien's (1995) assessment that transformational leadership is associated with lower quality relational exchanges. Wang et al. (2005) confirmed a strong association between transformational leadership and high-quality leader-member exchange, describing transformational leadership as the intervention that "builds and nourishes" (p. 423) high-quality leader-member exchange relationships. In the study by Wang et al. (2005), the association between leader-member exchange and task performance was weak, but statistically significant when task performance was mediated by organisational citizenship behaviour. Krishnan (2005) established the full mediation between transformational leadership and 'intention-to-quit' by virtue of leader-member exchange, where direct mediation between transformational leadership and 'intention-to-quit' was insignificant. Fenwick et al. (2019) studied the degree to which leader-member exchange mediates between transformational leadership and 'supervision and feedback' and concluded that leader-member exchange is a significant mediator between transformational leadership and other organisational processes. Waglay (2020) confirmed the effect of transformational leaders on their followers to be 'empowerment' that results in a "conscious change" (p. 20) and positioned transformational leadership behaviours to catalyse leader-member exchange. In Waglay's (2020) study, leader-member exchange served as a successful partial mediator between transformational leadership and performance, where the relationship between transformational leadership and leader-member exchange was strong, but not as significant as between leader-member exchange and performance. The positive relationship between transformational leadership and leader-member exchange is vulnerable in the presence of geographic distance (Howell & Hall-Merenda, 1999). Molines et al. (2020) accentuated a potential unintended consequence of the transformational leadership, leader-member exchange, and work performance triad. The prevalence of trust and dedication that gets unlocked in developing a high-quality leader-member exchange relationship can lead to followers working beyond feasible physical levels, which may lead to burn-out (Molines et al., 2020).

While the association between transformational leadership and leader-member exchange is very strong, the two concepts are theoretically distinct (Burch & Guarana, 2014). Transformational leader behaviours are considered catalysts in developing leader-member exchange relationships (Yukl et al., 2009). Leader-member exchange is established as a reliable mediator between transformational

leadership and mission valence (Shafaat et al., 2020), intention-to-quit (Krishnan, 2005), performance outcomes (Fenwick et al., 2019; Wang et al., 2005; Howell & Hall-Merenda, 1999).

2.6 RETAILER-SUPPLIER EXCHANGE: EXTERNAL RELATIONSHIPS

The grocery retail industry is known for a wide range of fast-moving consumer products that require: (1) constant replenishment to maximise daily availability to end-consumers (Das Nair & Landani, 2020); and (2) regular range refreshment to anticipate changing consumer behaviour (Bryant & Kazan, 2012). Success in product innovation in the grocery retail industry requires anticipating the future (Van der Valk & Wynstra, 2005). The speed at which the grocery retail industry needs to perform through product innovation requires leadership (Midgley, 2010; Roberts & Fufeld, 1997; Shafi et al., 2020; Super, 2020), internal team collaborative relationships (Das Nair & Landani, 2020), strategic supplier partnerships (Albors-Garrigos, 2020), and attuning product innovation to end-consumers (Wimschneider et al., 2020). The relevance to this research study is that optimised retailer-supplier relationships enable product innovation performance.

Relationships between retailer and supplier fall under the umbrella of supply chain management - considered an essential component in achieving efficiency (Ngouapegne & Chinomona, 2019) and regarded as one of the most challenging aspects of managing the supply chain (Goffin et al., 2006). Supplier partners, as part of the product innovation performance process, contribute specialised expertise (Bönte & Keilbach, 2005), since suppliers tend to focus on a particular business niche (Johnsen, 2009; Pisano, 1990; Tsai, 2009). Suppliers and retailers enter into a collaborative relationship with unique attributes and agendas (Chang et al., 2012). The retailer ranks one supplier in the context of a wider supply base (Van der Valk & Wynstra, 2005). The competitive organisational environment necessitates retailers to be strategic regarding their supplier base (Albors-Garrigos, 2020). Balancing the supplier base means that the retailer categorises each supplier according to the supplier abilities and how these fulfil the retailer's innovation strategy (Van der Valk & Wynstra, 2005). The retailer's innovation strategy will typically be approached on a continuum ranging from immediate products and services to innovate and establish, while also planning the future pipeline of innovations (Cantarello et al., 2013). The balance of the 'immediate' with the 'future' is essential in maintaining long-term commercial relevance (Ojha et al., 2018). An appropriate balance in supplier resources means specifically knowing with which suppliers to establish strategic tight ties versus more general ties (Meyer et al., 2019). Suppliers also establish their own power in a retailer-supplier setting (Patrucco et al., 2019). Highly skilled innovative suppliers are rare, necessitating the importance for retailers to increase their attractiveness in order to secure the best suppliers (Patrucco et al., 2019). Being in demand, highly skilled suppliers can afford to apply discernment when deciding with which

retailers to partner (Patrucco et al., 2019). A successful strategic supplier relationship requires (1) the nurturing of trust, (2) a depth and breadth in information-sharing, (3) achieving joint-advantages when solving conflict, and (4) formalised agreements and assessment metrics (Monczka et al., 1998).

The literature on exchange relationships between suppliers and retailers are considered in the inception phase (Patrucco et al., 2019). Retailer-supplier relationship literature is wide and fragmented (Kumar, 2005). Most buyer-supplier literature is grounded in the automotive and information technology industries and is United States- and Japanese-centric (Bidault et al., 1998; Johnsen, 2009; Wu & Wu, 2015), with a recognition that research in other industries like grocery retail is particularly rare (Van der Valk & Wynstra, 2005). Leader-member exchange theory literature currently does not extend to include the retailer and supplier relational quality phenomenon. In order to expand the leader-member exchange construct to also include retailer-supplier exchange, the literature on strength-of-ties (Granovetter, 1973), trust (Fawcett et al., 2012; Day et al., 2013), power (Sutton-Brady et al., 2015), leadership (Bednall et al., 2018) and risk (Bönte & Keilbach, 2005) in relation to suppliers and grocery retailers is coordinated along: (1) relationship formation dynamics; (2) antecedents; and (3) outcomes of retailer-supplier relationships.

2.6.1 Formation dynamics of retailer-supplier relationships

2.6.1.1 Attraction

The notion of 'attraction' between retailer and suppliers is considered an advanced component of assessing how retailer-supplier relationships become established (Patrucco et al., 2019, p. 347). According to a consolidation by Patrucco et al. (2019, p. 349), retailer-supplier relationships are significantly governed by attraction in a social exchange context, suggesting that "human factors are crucial components of attraction and that attraction plays an important role in value creation, as it influences trust and commitment between parties". Attractiveness is assessed by both the retailer and supplier as part of the process to evaluate commercial benefits in proceeding with a collaborative relationship. Attraction between suppliers and retailers determine whether a relational exchange relationship can be developed (Patrucco et al., 2019). The social exchange between retailers and suppliers is either motivated by constraints or trust (Low & Li, 2019). Constraints as motivation for forming a relationship could be due to the uniqueness of the supplier organisation, for example the absence of specific technical abilities to produce certain products, or the motivation due to a shortage in resources (Chang et al., 2012). Trust as a motivation to form a relationship is based on affinity to the other dyad member and is sustained by social bonding (Chang et al., 2012). As a result of attraction, a relationship is formed where a "shared code and language" between retailer and supplier

teams develops (Rass et al., 2013, p. 181). The shared code that develops between a retailer and strategic supplier occurs over time, requires trust, and enables innovation development efficiencies through open communication (Von Hippel, 1988).

2.6.1.2 Strength of ties

Grocery retailers typically have hundreds of suppliers (Vanpoucke et al., 2014) that all contribute to the wide range of fast-moving consumer goods that appeal to the retailer's particular end-consumer base (Makhitha & Khumalo, 2019). Each supplier differs to varying degrees (Sheu et al., 2006). Relationships between suppliers and retailers can vary from "arm's-length" relationships (Sheu et al., 2006, p. 24) to close, collaborative relationships (Kumar, 2005). Supplier involvement in the development of products and services is increasingly critical, while acknowledging that each relationship dyad needs to consider the specific nature of the organisations involved and that no dyad will be exactly the same as another (Oinonen et al., 2018).

Some suppliers simply provide products with limited innovation support required by the retailer (Kumar, 2005), while other suppliers may depend on the retailer teams for extensive support (Fawcett et al., 2012). The more innovative the products, the greater the resource commitments from both supplier and retailer (Salavou & Avlonitis, 2008). Granovetter (1973) introduced the phenomenon of 'strength of ties' to expand on the notion of different types of relationships. Strength of ties is a means to describe the "nature of the relational bond between two or more social actors" and the "effect of this bond on their information sharing" (Rindfleisch & Moorman, 2001, p. 2). A 'tie' is described as the "combination of the amount of time, the emotional intensity, the intimacy (mutual confiding) and the reciprocal services" in a relationship (Granovetter, 1973, p. 1361). The dimensions of tie strength include relationship length, mutual confiding, reciprocal services and emotional intensity (Granovetter, 1973). The knowledge that not all retailer-supplier relationships are the same is noteworthy in the process of developing relationships (Sheu et al., 2006). The recognition that each organisation, be it the supplier or retailer, has unique business architecture and ways of achieving its commercial success (Sheu et al., 2006) should result in the development of bespoke relationships that accommodate the organisational specifics of each party (Bidault et al., 1998). In order to create a healthy innovation ecosystem, the retailer will prioritise both strong ties and weak ties with a spread of suppliers (Hughes & Perrons, 2011; Roscoe et al., 2016), where some relationships can be either purely transactional, long-term or even full partnerships (Goffin et al., 2006). Strong ties are typically known for reciprocity, closeness, indebtedness, prolific two-way information sharing and clarification (Ganesan et al., 2009; Rindfleisch & Moorman, 2001). Strong ties are also marked with intense and repeated interaction, prevalent when product complexity is high, highly reliant and with a "high

replacement cost” (Hughes & Perrons, 2011, p. 169). A retailer-supplier relationships that is considered a strong tie, will render the relationship indispensable to both parties, with a high interdependence (Sjoerdsma & Van Weele, 2015; Van der Valk & Wynstra, 2005). Weak ties are argued to be useful when more diverse information is sought with no particular incentive to form very connected and dependent relationships (Rindfleisch & Moorman, 2001). Weak ties are also appropriate with low reliance between supplier and retailer, low intensity with minimal interaction, and an immediate but non-significant return (Hughes & Perrons, 2011). Suppliers with whom a weak tie is maintained, typically supply the retailer with products that are not unique to the retailer, and which required minimal or no interaction between supplier and retailer during the innovation process (Kumar, 2005). Kumar (2005) asserted that in many cases, retailer-supplier relationships can hold great longevity and mutual success, based on “calculative commitment” entailing commercial advantage to both parties, without the need to develop a particularly close relationship. Retailer-supplier relationships can be simple and transactional, while also being commercially lucrative (Kumar, 2005). In cases where regular development and innovation is required, however, a closer and more committed relationship between retailers and suppliers is required (Hughes & Perrons, 2011). Tender-systems with suppliers are considered transactional and contravenes the building of long-term relationships (Hughes & Perrons, 2011). The tender-system as a means for product innovation, involves the retailer supplying details of the project and awaiting a wide range of suppliers to bid (Philipsen & Kolind, 2012). The bidding process is concomitant with a retailer-supplier relationship “characterised as arms-length”, which ensues uncertainty and impermanence on the part of the supplier (Philipsen & Kolind, 2012, p. 12).

The different types of relationships are necessary in order to manage resources efficiently (Bidault et al., 1998; Goffin et al., 2006). Knowing with which suppliers to form strong ties or strategic alliances is fundamental to success (Sjoerdsma & Van Weele, 2015; Van der Valk & Wynstra, 2005). Typically a retailer will establish closer associations with fewer suppliers (Bidault et al., 1998). For both the retailer and supplier, it is critical to develop the appropriate level of relationship intensity (Day et al., 2013). Appropriateness should be governed by the value-creation potential, driven by capabilities; for example, a commercially sound retailer-supplier relationship cannot be built on a foundation of empathy (Day et al., 2013).

A strong relationship with a retailer increases the confidence of the supplier, with outcomes of increased relational investment, increased investment in research and development, and greater effort expended on product development and innovation (Krolkowski & Yuan, 2017). The nature of the relationship strength or tie determines the level of information flows from and to the supplier

(Ganesan et al., 2009). The level of knowledge sharing will have an impact on the supplier's innovation performance (Bönte & Keilbach, 2005). The continuum of relationships ranges from discrete relationships, to transactional, sporadic interactions and integrated relations, with various collaborative relationships in between (Autry & Golicic, 2010). The notion of differentiated relationships is similar to the leader-member exchange theory positioning that dyads may differ from one to the next (Zhou & Schriesheim, 2009).

Extrapolating the phenomenon of leader-member exchange to retailer-supplier relationships is currently not evident in existing literature. Relational quality between teachers and students was however successfully observed and transposed along the tenets of leader-member exchange theory, where the outcome highlighted suitability in an educational context (Mosley et al., 2014). Table 6 compares three stages of relationship formation from leader-member exchange theory with retailer-supplier literature.

Table 6

Comparative Relationship Formation Phases

Stage	Leader-member exchange theory	Retailer-supplier literature
Initial stage	Initial task assignment and assessment (Dulebohn et al., 2012; Nahrgang et al., 2009)	Supplier testing phase to move from out-group to in-group (Autry & Golicic, 2010)
Stage 2	Entrusting with greater responsibility (Liden & Graen, 1980)	Development of mutual trust, loyalty and respect (Fawcett et al., 2012)
Stage 3	Attachment phase (Hinojosa et al., 2014)	Mutual commitment to the mission (Krishnan, 2005)

Table 6 indicates the initial stage of a retailer-supplier relationship to involve a test in order to determine where on the continuum of strong versus weak ties to place the supplier in question. Likewise, when a relationship between a leader and follower is formed, a task is assigned or a performance assessment is conducted to ascertain the type of relationship strength that will ensue. Stage 2 in both leader-member and retailer-supplier perspectives involves a developing phase, culminating in the establishing of a higher level of attachment or commitment. An initial phase of assessment enables trust, which eventually matures to a level of attachment or commitment (Hinojosa et al., 2014; Krishnan, 2005). While the theoretical difference in leader-member relationships and retailer-supplier relationships is presumed, the basic tenets of the relational quality of exchange principles are extrapolated for retailer-supplier relational strength determination.

2.6.1.3 Power and risk

The supplier in a retail environment typically faces the product development team as well as the commercial team (Alegre et al., 2006). The product development team is typically involved in the innovation process in detail, often with information flows regarding product specifics like taste, size and variants (Elg & Paavola, 2008; Ritala et al., 2009). The commercial team usually conducts buying and logistics functions (Ferne & Sparks, 2018). In some cases, the developing and commercial teams overlap; in others, they operate in silos (Hult et al., 2000; Watson et al., 2015). Fragmentation among commercial buyers, product developers and food technologists contributes to a fragmented approach to suppliers, which does not contribute to efficient and successful product innovation (Elg & Paavola, 2008). Commercial buyers are tasked to negotiate and finalise cost-efficiency (Elg & Paavola, 2008), pricing structures (Watson et al., 2015), contracts (Elg & Paavola, 2008), trading terms and conditions (Kim & Takashima, 2019), launch and subsequent volume management (Tsai & Hsu, 2014), and sale-through (Kim et al., 2017). Commercial buyers often need to utilise transactional directive leadership style, for example by holding suppliers accountable for fundamentals, such as product quality, reduced time-to-market and reduced development costs (Sjoerdsma & Van Weele, 2015). Product sale-through is defined as the sales percentage for a period and is considered the biggest factor in a commercial buyer being regarded as successful (Kim et al., 2017). The sale-through percentage is the yardstick to confirm that the end-consumer has responded to the product or service in a favourable manner (Ferne & Sparks, 2018). The sale-through percentage is a short-term indication that is often utilised to confirm the success of a newly launched product (Kim et al., 2017). While the metric holds particular salience to commercial buyers, it does not reflect a long-term contribution to the retailer brand or whether sufficient activations supported the product (Tsai & Hsu, 2014).

Power asymmetry in retailer-supplier relationships is likely to occur (Pan et al., 2020). Both suppliers and retailers have power; however, one of the parties generally has more power than the other (Low & Li, 2019). According to Takashima and Kim (2015), the power between a retailer and supplier is determined by the degree of dependence of the one party on the other, and is placed on the power matrix as either: (1) buyer dominant; (2) interdependence; (3) independence; or (4) supplier dominance. The word 'power' materialises in four different ways in the context of retailer-supplier relationships, namely: (1) dependence; (2) punitive capability; (3) non-coercive influence strategies; and (4) punitive actions (Kumar, 2005). 'Punitive action' is considered the most extreme form of power exertion and the "antithesis of building trusting relationships" (Kumar, 2005, p. 865). A significant part of retailer commercial buyer culture involves threats and punishments - which are rooted in punitive action - and are considered to thwart any efforts of other internal team members towards relationship building with suppliers. Traditionally, retailers - especially in the grocery retail sector - hold

tremendous power over their suppliers, rendering these relationships asymmetrical (Hingley et al., 2015; Low & Li, 2019; Sutton-Brady et al., 2015). The power exerted by retailers can often be categorised as inappropriate or even predatory, in which case overall inefficiencies and ineffectiveness creep into the supply chain; indeed a directly proportionate relationship exists between 'difficult buyers' and the infamous bullwhip effect⁷ (Hingley et al., 2015). The power asymmetry can also contribute to relational instability (Low & Li, 2019). However, when commercial buyers and suppliers collaborate in an optimised manner, dependence is increased, costs are reduced and revenues increase (Ojha et al., 2018). The power dynamics will affect the manner in which retailer-supplier relationships develop (Hingley et al., 2015; Low & Li, 2019; Sutton-Brady et al., 2015). In cases where a supplier predominantly interacts with commercial buyers, the rudimentary deliverables of supply dynamics may establish transactional and conditional elements to the relationship (Fawcett et al., 2012). However, when a supplier establishes a primary relationship with a developing team, then power shifts to a more equitable interaction involving knowledge sharing and collaboration (Bönte & Keilbach, 2005).

Risk-management involves both retailer and supplier teams excluding specific or direct competitors (Vanpoucke et al., 2014). The retailer may establish exclusivity boundaries as a condition for enlisting a particular supplier (Albors-Garrigos, 2020). In cases of a strategic supplier relationship, it may lead to the retailer excluding any other supplier competitor from similar products or ranges, which will be advantageous to the supplier (Albors-Garrigos, 2020). According to Bönte and Keilbach (2005), a risk reduction exists in new product launches when there is high retailer-supplier cooperation. The vulnerability that ensues when pledging exclusivity as a private label supplier to a retailer requires immense trust to be in place, as well as sufficient barriers to ensure that a supplier is not easily replaced by another supplier (Quelch & Harding, 1996). The retailer entrusts the supplier to maintain the brand promises that are intrinsic in its branded products, for example by maintaining product quality and sustaining demand (Dziersk et al., 2018; Konuk, 2020). In turn, the supplier devotes its resources to a particular retailer, often at the expense of not pursuing another retailer relationship, and thereby takes on the risk of replacement or reduction in portfolio of supply (Konuk, 2020; Nandonde, 2019). The greater the level of collaboration and exclusivity between a retailer and supplier, the greater the reciprocal risk (Fawcett et al., 2012). The more strategic the supplier becomes, the more the supplier will need to invest in research, development, equipment and opportunity cost (Yun et al., 2020). The greater the supplier investment, the greater the requirement

⁷ This refers to the amplification of upstream orders versus actual sales, causing disruption in strategic planning (Hingley et al. 2015).

for a strong relationship with the retailer (Cantarello et al., 2013), in order to manage the risks of: (1) replacement by another supplier; or (2) changing innovation strategies (Hingley, 2005).

Where retailers share in R&D costs and risks, a quality retailer-supplier relationship can be cultivated (Ferne & Sparks, 2018; Zhang et al., 2015), marked with open innovation and knowledge sharing (Bönte & Keilbach, 2005; Sipos et al., 2014; Ferreira et al., 2015). Suppliers are able to commit to the innovation journey with the retailer through contributing their knowledge and resources, as long as they perceive: (1) commercial benefit (Zhang et al., 2015); and (2) relational stability (Hingley, 2005). An example of a benefit may include exclusivity parameters where the supplier's competitors are kept at a greater distance (Wu & Wu, 2015). While not all inter-firm innovation collaboration is formal or based on contractual agreement (Bönte & Keilbach, 2005), formal coordination mechanisms like contracts can enable the flow of knowledge to facilitate innovation (Sjoerdsma & Van Weele, 2015), especially the push of novel and new innovation towards the retailer (Wagner & Bode, 2014).

2.6.2 Antecedents of retailer-supplier exchange

The antecedents to strong relationships between retailers and suppliers include culture, trust, commitment and satisfaction (Bobot, 2011; Patrucco et al., 2019). One of the key determinants in cultivating strong retailer-supplier relationships is a proficiency in managing collaborative relationships (Patrucco et al., 2019). Collaborative relationships with suppliers are an active and deliberate orientation and not a passive status (Johnson, 2009). An active approach in establishing collaborative retailer-supplier relationships include managing conflict in a constructive manner (Bobot, 2011). The more competitive the retail industry becomes, the more organisations will be necessitated to achieve appropriate product innovations to appeal to end-consumers (Wimschneider et al., 2020). Market changes and increased competition have caused a necessity for retailers to innovate at a greater speed.

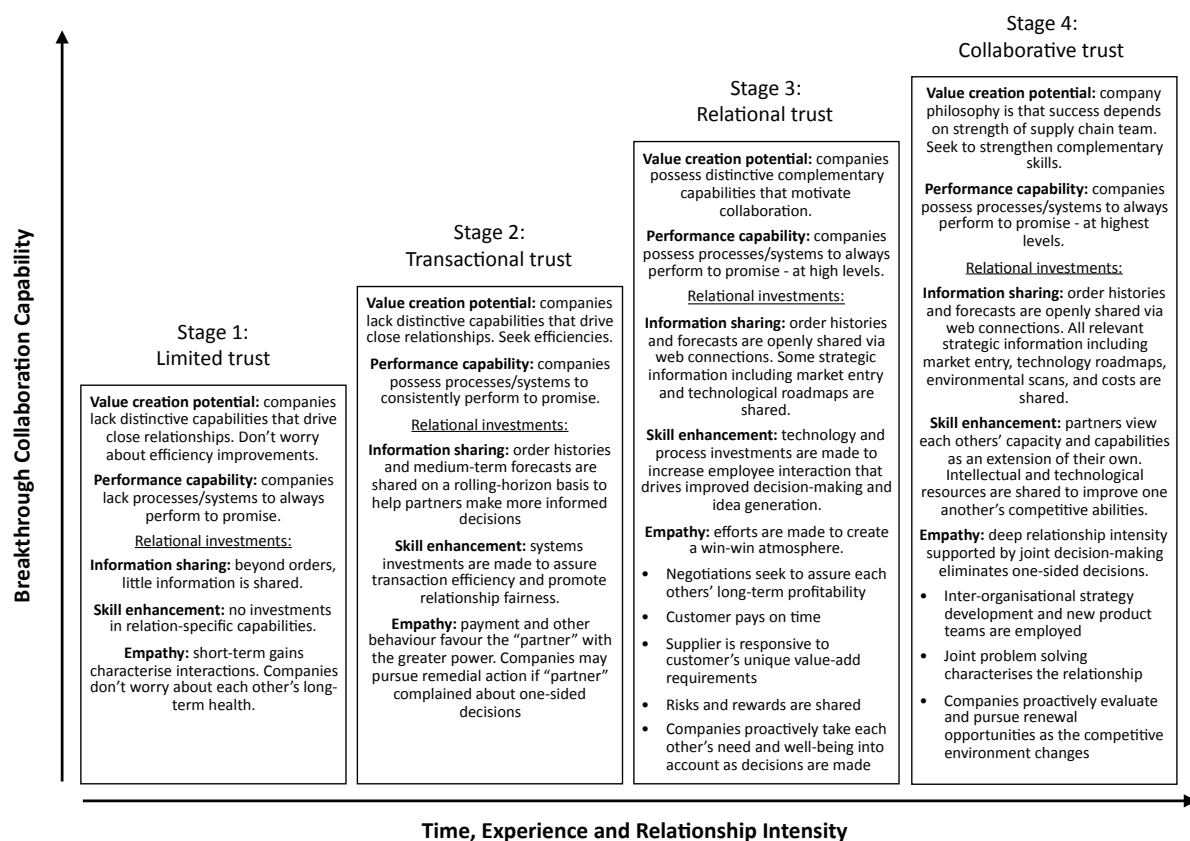
2.6.2.1 Trust

Trust between suppliers and retailers is defined as mutual reliance (Kelly & Bisel, 2014) and “the confidence that each party in a relationship will perform as promised and genuinely take each other’s welfare into consideration as each makes decisions” (Day et al., 2013, p. 153). Selecting the appropriate suppliers for collaborative innovation, then nurturing these relationships, is strongly reliant on a trust culture (Day et al., 2013; Fawcett et al., 2012; Zhang et al., 2015). Trust, in the context of the retailer-supplier relationship, is defined as a “willingness to rely on an exchange partner”, with a strong reliance on expertise and reliability (Jie & Gengatharen, 2019, p. 275). High trust is concomitant with relationship satisfaction, enhanced performance, learning, cost reduction, conflict

reduction and overall cooperation, while too much trust or embeddedness cultivates complacency, resource misallocation and malfeasance (Day et al., 2013). Suppliers tend to reserve the most technologically advanced innovations for the retailer where there is the greatest amount of trust (Bönte, 2008; Wagner & Bode, 2014). In cases of high levels of trust, suppliers can take a long-term view, and bolster their businesses with future-focused resources in order to continue to provide the retailer with a valuable innovation contribution (Day et al., 2013). Retailers trust their suppliers to keep their promises on their behalf, both in terms of quality aligned to the retailer brand and timely supply (Ngouapegne & Chinomona, 2019). Figure 11 represents the trust maturity framework developed by Fawcett et al. (2012).

Figure 11

Trust Maturity Framework



Note. Reproduced from Fawcett et al., 2012.

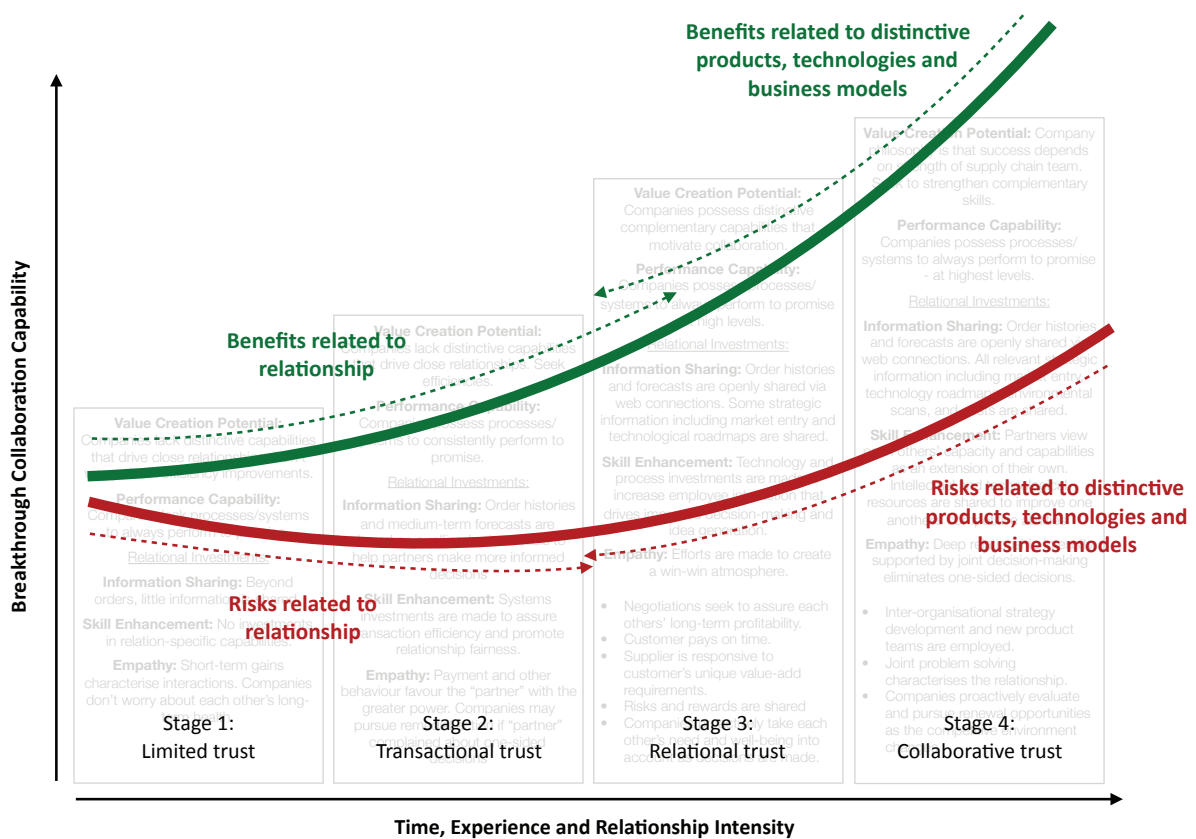
The ability to reach mature levels of trust enables innovation success; however, the progression towards collaborative trust (refer to Figure 11) involves: (1) sufficient time to germinate; (2) consistently delivering positive outcomes; and (3) sufficient motivation for relational investments (Fawcett et al., 2012). Beyond the transactional trust outlined in stage 2 in Figure 11, the level of vulnerability and investment required increases (Fawcett et al., 2012). Initially, the relationship may

be driven by an element of empathy, but as the relationship matures, capabilities become indispensable. The progression of trust maturity indicates that retailer-supplier relationships develop over time and require necessary investments, which will ultimately result in product innovation performance (Fawcett et al., 2012).

As the relationship develops between retailer and supplier, the overall risks and benefits also adjust based on the stage of the relationship. The overall risk and benefit profile as companies leverage trust via collaborative innovation designed by Fawcett et al. (2012) is presented in Figure 12, specifically illustrating how trust is leveraged.

Figure 12

Overall Risk/Benefit Profile as Companies Leverage Trust via Collaborative Innovation



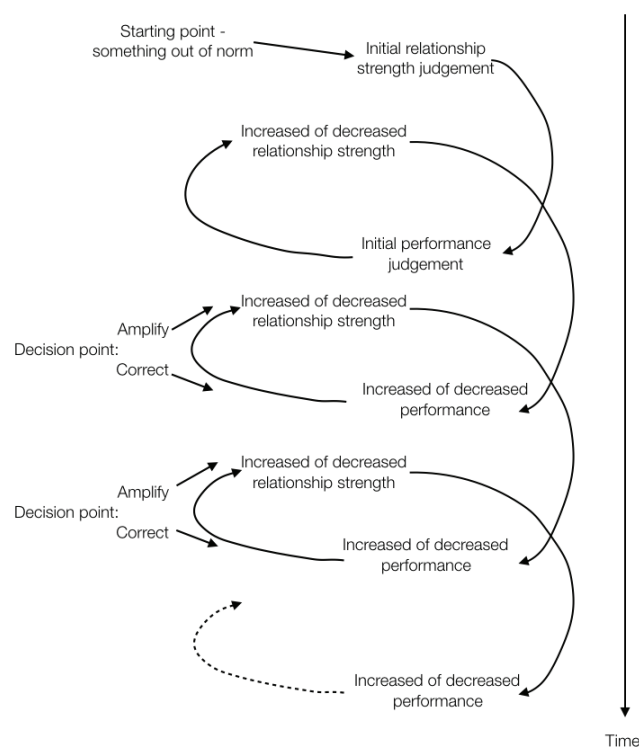
Note. Reproduced from Fawcett et al., 2012.

In Figure 12, the exponential benefits of building retailer-supplier trust relationships manifest in stage 3 and stage 4 of relationships, while the risks reach a plateau (Fawcett et al., 2012). A salient advantage of reaching stage 4 collaborative trust status as a supplier is the entrusting of riskier and more disruptive innovation, thus potentially enabling first-to-market advantage (Fawcett et al., 2012). Strong buyer-supplier relationships promise a competitive advantage; wherein lies the chicken-and-

egg conundrum: some organisations (retailer or supplier) may choose not to strengthen a relationship until there is a track record of positive outcomes (Autry & Golicic, 2010). In building high-quality retailer-supplier relationships, the benefits reach an ideal level when there is full and transparent collaboration. It is essential for the retailer and supplier to be deliberate and transparent regarding the type of relationship they intend to co-build, so that benefits in the form of product innovation success can be achieved, while minimising the risks. According to Manzoor, Khan and Adeel (2019), a retailer unlocks the true product innovation competitive advantage where there is some formal supplier development programme present. Supplier development programmes are considered relationship-specific and extract the maximum communication from both retailer and supplier sides (Breuer et al., 2014). Day et al. (2013) cautioned against too much embeddedness or trust, since it may narrow either supplier or retailer's "purview of wider network capabilities" (p.153). In the case of suppliers committing exclusively to supplying one retailer may lead to putting all their eggs in one basket (Albors-Garrigos, 2020). By not pursuing other retailer customers, the supplier increases the dependence on their most embedded relationship (Konuk, 2020; Nandonde, 2019). Autry and Golicic (2010) developed a strength performance spiral, depicted in Figure 13, to illustrate the progression of a collaborative relationship.

Figure 13

Relationship Strength-Performance Spiral



Note. Reproduced from Autry & Golicic, 2010.

In Figure 13, the dyadic relationship is initiated (depicted at the top of Figure 13) and generally positioned at initial lower strength level, which then develops based on a series of interactions (Autry & Golobic, 2010). The downward spiral indicates the passage of time, where performance is assessed at regular intervals, with implications for relationship strength status. Supplier performance increases retailer comfort, with the result of getting entrusted with more product innovation projects, which further embeds the increase in retailer-supplier commitment (Stanko et al., 2007). Trust and collaboration requires time, and cannot mature in an impatient and instantly gratifying scenario (Fawcett et al., 2012).

2.6.2.2 Leadership

Bednall et al. (2018) found evidence that transformational leaders achieve innovation success via suppliers. However, the literature on the effect of transformational leaders on supply chains and suppliers remains sparse (Hult et al., 2007). The supply chain is defined as the “network of facilities and activities that performs the functions of product development, procurement of material from suppliers, the movement of materials between facilities, the manufacturing of products, the distribution of finished goods to customers, and after-market support for sustainment” (Mabert & Venkataramanan, 1998, p. 538). The integration and optimisation of the supply chain, and specifically the buying-supplying-consuming triad can lead to significant competitive advantage (Albors-Garrigos, 2020). The advantage of integrating knowledge flows from supplier and retailer team members, like food technologists and product developers, is greater alignment of product innovation performance goals (Hult et al., 2000). Strong visionary leadership is required, on the side of both supplier and retailer, to ensure that the retailer-supplier relationship is effective (Hult et al., 2000). An organisation has strengthened innovation output where there is both strong internal integration and external integration (Ojha et al., 2018). ‘External integration’ involves retailer-supplier information sharing and collective participation (Ojha et al., 2018).

Transformational leaders, can strengthen the relationships between internal teams and commercial buyers, as well as between commercial buyers and suppliers (Hult et al., 2007). According to Hult et al. (2007, p. 400), “transactional leadership has a decidedly negative moderating influence on the relationship between a buying centre's value and supply chain performance while transformational leadership positively moderates the relationship”. According to Li et al. (2014), the transformational leader sets the pace in terms of conduct towards a supplier: if a leader prioritises a supplier, then the team generally follows in emulating supplier-supportive behaviour. Transformational leaders shape the organisation's culture to include the tone of supplier relationships and how suppliers should be treated (Yun et al., 2020).

When the interrelationships between internal team members, commercial buyers and suppliers are managed well, new knowledge generally flows more smoothly, which may in turn lead to a competitive advantage (Birasnav et al., 2011; Ojha et al., 2018). Self-enforcement is a relational phenomenon that relies on “cooperative behaviour, trust, and relationship commitment” in respect of conflict resolution (Wu & Wu, 2015, p. 185). Self-enforcement has been shown to be a most effective and least costly mechanism to ensure information exchange between suppliers and retailers (Wu & Wu, 2015).

A retailer-supplier relationship involves contextual and intricate components that contribute to the success of the relationship (Sheu et al., 2006). The level, intensity and transparency of interactions between internal and external role players have an overall effect on the relationship (Autry & Golicic, 2010). Despite the fact that the variety of internal and external team members collaborate, “if leadership is lacking, even a good relationship with the supplier will not improve important issues such as contract management and scheduling” (Hult et al., 2000, p. 117). The effect of leadership - particularly transformational leadership - in the supply chain ensures the lowest levels of conflict and the highest levels of performance (Yun et al., 2020).

In cases where the leader has a long-term vision and strategic suppliers are considered in this vision, both the immediate innovation performance horizon and the long-term innovation performance horizon are balanced (Ojha et al., 2018). ‘Exploitation’, in a product innovation context, entails a focus on immediate short-term product innovation gains (Pearce et al., 2013). A focus on the immediate product innovation horizon requires a parallel prioritisation of ‘explorative’ long-term innovation planning (Azoulay-Schwartz et al., 2004). Retailer teams are held accountable to demonstrate commercial viability of new products in a short-term window (Cantarello et al., 2013). A mandate for immediate commercial viability can distract teams from a long-term gearing through future pipeline product innovation (Cantarello et al., 2013). Cantarello et al. (2013) described the required innovation ambidexterity as maintaining and improving the existing base, while also being future-focused through the identification of new opportunities. In cases where high-quality relationships prevail, suppliers tend to take long-term risks by investing not only in resources for providing competitive products in the present, but also by investing in the technologies required for future competitiveness (Gao et al., 2015). Therefore, the degree of supplier appetite for exploring newness, versus maintaining the status quo, affects the level and success of pushed innovation to the retailer (Wagner & Bode, 2014). In order to balance short-term and long-term development horizons, visionary and impactful leadership is required (Van der Valk & Wynstra, 2005).

2.6.3 Retailer-supplier exchange outcomes

Some of the outcomes of a quality retailer-supplier relationship includes better quality, optimised and/or reduced costs, consistent delivery, and better innovation (Patrucco et al., 2019). Papatoidamis et al. (2019) adjusted for organisational size and geographical details and ascertained that the universal outcome of retailer-supplier trust is long-term loyalty.

2.6.3.1 Knowledge flows and open innovation

Co-innovation with suppliers and end-consumers, in an open collaborative fashion, is at the heart of successful modern retail innovation (Albors-Garrigos, 2020). Suppliers generally already occupy niches with a narrow focus, and are able to be masters in their particular fields, enabling retailers to access ideally placed competitiveness (Ganesan et al., 2009; Johnsen, 2009; Pisano, 1990; Tsai, 2009). Organisations rarely innovate in isolation, with ever-present elements of collaboration and interdependence (Edquist, 2005; Tsai, 2009). A strong correlation is evident between supplier interaction quality, knowledge transfer and new product performance (Sjoerdsma & Van Weele, 2015).

The strength of retailer-supplier relationships is a critical component of overall success of retailer (Frances & Garnsey, 1996; Sutton-Brady et al., 2015), especially when it concerns competitive product innovation (Kamath & Liker, 1990; Ren et al., 2015). According to Chesbrough and Bogers (2013), open innovation includes a host of collaborators including industry partners, intermediaries, suppliers and end-users. Open innovation enables rapidity in product innovation (Cheng & Chen, 2013), and is defined as the deliberate in-and-outflows of knowledge between suppliers and retailers with the end-goal to accelerate innovation and share the learning with others (Chesbrough, 2003). While the notion of open innovation was established by Von Hippel (1988), the scaffolding or platforms to enable smooth open innovation has advanced in efficacy and ease since then, specifically the technology that can smooth the way for knowledge sharing (West, 2009). The advantages of operating within an open innovation style of collaboration are particularly salient to grocery retail organisations (Wagner & Bode, 2014). Specific advantages are: (1) access to better technology; (2) launch rapidity; (3) reduced innovation costs; and (4) unduplicated research efforts (Bönte & Keilbach, 2005). The process of open innovation starts with a mindset that includes openness, risk appetite, a maturity in terms of who gets the credit and maintenance of momentum (Yun et al., 2020). West et al. (2009) described the ecosystem for innovation as an “innovation community” (p. 226).

The creation and maintenance of an innovation community requires mechanisms to seek and obtain participation (Powell et al., 1996; West, 2009). An essential component of open innovation includes

the deliberate structures and systems to encourage knowledge flows (Chesbrough & Bogers, 2013). Tsai (2009) asserted that open innovation is positively associated with the increase in knowledge flows and product innovativeness of suppliers. In cases where the knowledge sharing and acquisition between suppliers and retailers are considered open and active, higher instances of product innovation success ensued (Manuela et al., 2021). Deliberate supplier involvement programmes to encourage supplier knowledge sharing has shown to be successful in the product innovation quest (Zhang et al., 2015). The stronger the trust between retailers and suppliers, the more prolific the knowledge exchange becomes (Manuela et al., 2021).

Strong retailer-supplier relationships enable seamless sharing of information and knowledge (Manuela et al., 2021). However, Powell et al. (1996) asserted that the exchange of valuable knowledge requires specific conditions, which Hughes and Perrons (2011) argued develops over time and falls under the umbrella of social capital. Social capital is “the sum of resources that a firm accrues by virtue of possessing a durable network of inter-firm relationships” (Hughes & Perrons, 2011, p. 164). Social capital is considered to be a component of intellectual capital which, similar to human capital, enriches individual team members to perform towards collective organisational goals (Birasnav et al., 2011). Social capital is often oversimplified in the literature, with two problems arising from this simplification error, according to Hughes and Perrons (2011), namely: (1) networks are unique, and unlocking value requires specific “structural, relational, and cognitive conditions” (p. 164); and (2) there is a potential risk in forging connections and assigning the appropriate time and resource investment. The notion that social capital requires appropriate conditions further supports the requirement of leadership to provide direction (Mumford & Licuana, 2004) and conditions for appropriate supplier relationships to form (Vanpoucke et al., 2014).

Retailer-supplier collaboration is regarded a social process that is subject to the principles of social exchange theory, which includes the practice of reciprocity (Zhang et al., 2015). Senior leadership is therefore necessary to set the parameters of interorganisational sharing of knowledge (Chesbrough & Bogers, 2013). While knowledge flows can occur explicitly and/or implicitly (Low & Li, 2019), for open innovation to establish the necessary conditions, as described by West (2009), a leader’s mandate is required to formalise the degree to which transparency may prevail. Team members require leaders to establish the parameters of acceptable open innovation conduct (Tsai, 2009).

The ability of retailers to absorb knowledge is pivotal in the quest to achieve innovation performance (Wagner & Bode, 2014). The absorptive capacity to receive and process knowledge is considered paramount for businesses that want to achieve innovation success (Bönte & Keilbach, 2005). The higher the absorptive capacity, the higher the propensity to achieve innovation achievements (Cheng

& Chen, 2013). Füller and Jonas (2013) found that, in cases where suppliers were privy to high levels of knowledge about the end-users of their product or service, they were able to develop more appropriately. Simultaneously and specifically, where the supplier has full access to end-consumer data, the supplier acts as a custodian with higher levels of stewardship and commitment to solving innovation challenges (Powell et al., 1996; Füller & Jonas, 2013).

In order to attract suppliers to push their best and most appropriate innovation to the retailer, a deliberate strategy is required to ensure that: (1) suppliers perceive relevant benefits to offset particular risks (Fawcett et al., 2012); (2) stability in the cultivation of a long-term relationship (Low & Li, 2019) and; (3) mechanisms for knowledge flows to and from the retailer (Chesbrough & Bogers, 2013; Füller & Jonas, 2013).

2.7 SUMMARY

In Chapter 2 the literature review commenced with an overview of innovation with the aim at establishing the depth and breadth in innovation typology and the necessity to clearly define the type of innovation in question. In the context of this study, product innovation performance in a grocery retail milieu was positioned as the specific type of innovation. A literature review on leadership, particularly transformational leadership and self-leadership, followed. The final component of the literature review focused on quality of relationships both internal and external supplier relationships. Chapter 3 positions the research problem and objectives.

CHAPTER 3: RESEARCH PROBLEM AND OBJECTIVES

3.1 RESEARCH PROBLEM

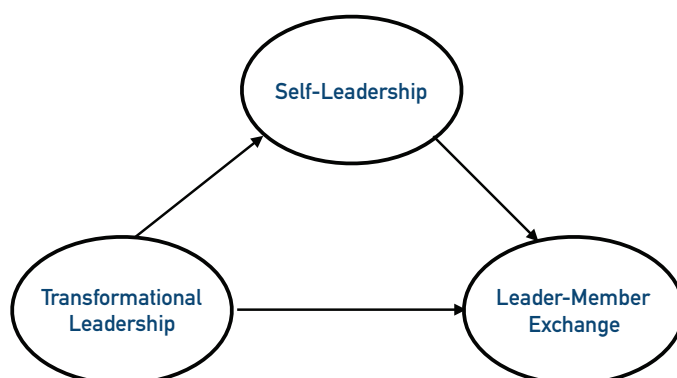
The imperative to innovate as a cornerstone of organisational survival is repeatedly underscored in the literature (Baumol, 2002; Midgley, 2010; Tohidi & Jabbari, 2012; Trott, 2012). Organisations find it challenging to innovate relentlessly and rely on many internal and external role-players to drive and fulfil innovation (Mascareño et al., 2020). Contemporary innovation performance requires metamorphic leadership to stimulate innovativeness, cohere internal and external team members, and set strategic direction (Sergeeva & Zanello, 2018). Product innovation is a way for grocery retailers to remain relevant while the speed of change creates constant shifts in how to remain competitive. The effect of leadership and relationships is postulated to support the frenetic environment of constant product innovation performance expectations.

Innovation performance has been associated with both transformational leadership and self-leadership behaviours (Howell & Higgins, 1990; Phelan & Young, 2003; Sarros et al., 2011; Stashevsky et al., 2006) and aspects of leader-member exchange (Basu & Green, 1997). Transformational leadership, self-leadership and leader-member exchange are grouped as *leader support-related concepts* that are associated with empowerment and sharing of responsibility to achieve positive performance outcomes (Cheong et al., 2019).

In Figure 14, a triad linking transformational leadership, self-leadership and leader-member exchange is established as the first component of the research study.

Figure 14

Development of an Initial Model with a Specific Focus on Transformational Leadership, Self-Leadership and Leader-Member Exchange



The existing positive connection between transformational leadership and innovation (Howell & Higgins, 1990; Sarros et al., 2011) and self-leadership and innovation (Phelan & Young, 2003; Stashevsky et al., 2006) is established to a degree. However, the literature is sparse on the triad of transformational leadership, self-leadership and relational strength, and the factors that underscore success. The triad of transformational leadership, self-leadership and leader-member exchange in their respective constructs involve positive traits that individuals can develop, improve and perfect (Dulebohn, et al., 2012; Politis, 2006). The literature confirms that the efficacy of transformational leadership is founded on follower effect (Siangchokyoo et al., 2020). The questions remain: (1) how does the presence of a transformational leader affect the status of self-leadership; (2) is there a relationship between strong leader-member exchange and high prevalence of self-leadership where self-leadership mediates higher quality of exchange between leaders and their followers; and (3) how the triad affects product innovation performance.

Leader-member exchange is repeatedly identified as an effective mediator between transformational leadership and positive organisational outcomes (Fenwick et al., 2019; Howell & Hall-Merenda, 1999; Molines et al., 2020; Waglay, 2020; Wang et al., 2005). The relationship between transformational leadership and leader-member exchange is considered, as well as the possible mediating effects towards product innovation performance.

Figure 15 depicts the dynamics between transformational leadership, the potential mediation role of leader-member exchange and product innovation performance.

Figure 15

Development of an Initial Model with a Specific Focus on Transformational Leadership, Leader-Member Exchange and Product Innovation Performance

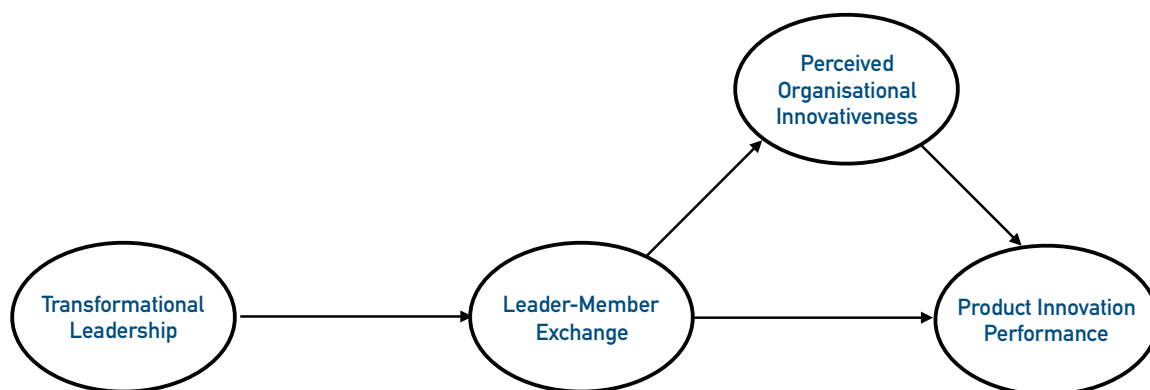


While the literature to support leader-member exchange as a mediator for positive performance outcomes is significant (Fenwick et al., 2019; Howell & Hall-Merenda, 1999; Krishnan, 2005; Shafaat et al., 2020; Wang et al., 2005), the triad of transformational leadership, leader-member exchange and product innovation performance reports mixed results (Basu & Green, 1997; Graen & Uhl-Bien, 1995).

Perceptions of innovativeness are a strong indication of actual innovation success (Eden, 1990; Eden & Ravid, 1982; Rosenthal, 2002). Perceived organisational innovativeness is included in Figure 16, specifically enquiring whether perception of innovativeness plays a mediating role between internal team leader-member exchange and product innovation performance.

Figure 16

Development of an Initial Model with a Specific Focus on Perceived Organisational Innovativeness as a Mediator between Leader-Member Exchange and Product Innovation Performance

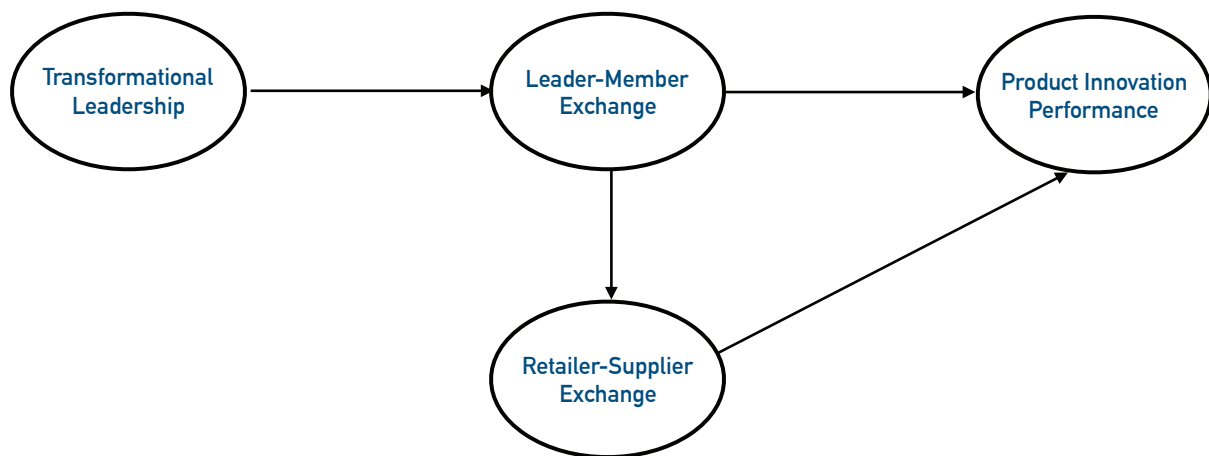


In Figure 16, perceived organisational innovativeness is positioned as mediator between leader-member exchange and product innovation performance. Perception of innovativeness is closely linked to the willingness of an organisation to adopt new ideas (Williams, 2013). The degree to which the 'willingness to adopt new ideas' explains product innovation performance is included in the objectives of this research study.

The literature is clear that external collaboration is a critical contemporary organisational advantage in terms of innovation (Edquist, 2005; Kamath & Liker, 1990; Ren et al., 2015). The exchange between an internal team member and a supplier team member enables the completion of the innovation journey, and is a key part of this research study, specifically, in respect of whether retailer-supplier exchange fulfils a mediating role between leader-member exchange and product innovation performance, as depicted in Figure 17.

Figure 17

Development of an Initial Model with Retailer-Supplier Exchange as a Mediator between Transformational Leadership, Leader-Member Exchange and Product Innovation Performance



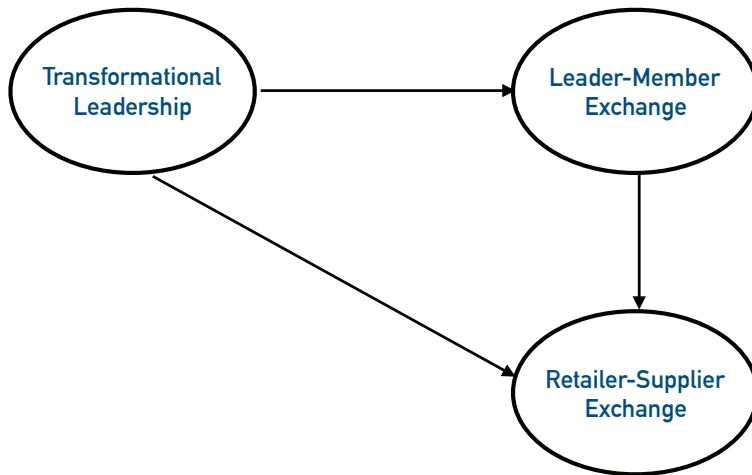
Innovation performance has also been associated with open innovation, where degrees of transparency with specific supplier partners enable innovation success (De Clercq et al., 2011). The ecosystem of grocery retail product innovation performance necessitates a comprehensive supply chain (Goffin et al., 2006), with many of the functions fulfilled by external service providers (Vanpoucke et al., 2014). The grocery retailer outsources the production of products to several suppliers (Sjoerdsma & van Weele, 2015). While the literature associates an open innovation approach to innovation performance, the literature is sparse regarding how internal and external relationship strength affects product innovation performance. The level of knowledge flows between internal teams, and external teams (De Clercq et al., 2011) is salient. In tandem, the capacity of suppliers to incorporate and apply the knowledge cues (Bönte & Keilbach, 2005; Tsai, 2009; Wagner & Bode, 2014) to achieve outcomes towards open innovation benefits (Johnsen, 2009; Wu & Wu, 2015) is critical. Just as leader-member relationships develop over time (Nahrgang et al., 2009) and are different from one dyad to the next (Dulebohn et al., 2017), the same may apply to retailer-supplier relationships if the argument of *strong ties* and *weak ties* (Hughes & Perrons, 2011; Roscoe et al., 2016) could be extended. Trust, developed over time, is a foundational aspect in retailer-supplier relational development, moving from the limited trust phase to transactional to relational, and ending in the collaborative trust phase (Fawcett et al., 2012). The final collaborative trust phase is where strong retailer-supplier bonds are forged (Autry & Golicic, 2010), and the crux of this component of the research is to ascertain whether the strength of retailer-supplier relationships leads to product innovation performance.

The literature on the transformational leadership effect on external service providers appears to be in its infancy (Bednall et al., 2018). As depicted in Figure 18, this research study explores whether there

is a significant relationship between transformational leadership and retailer-supplier exchange or whether leader-member exchange proves to be the mediator thereby indirectly linking transformational leadership with retailer-supplier exchange.

Figure 18

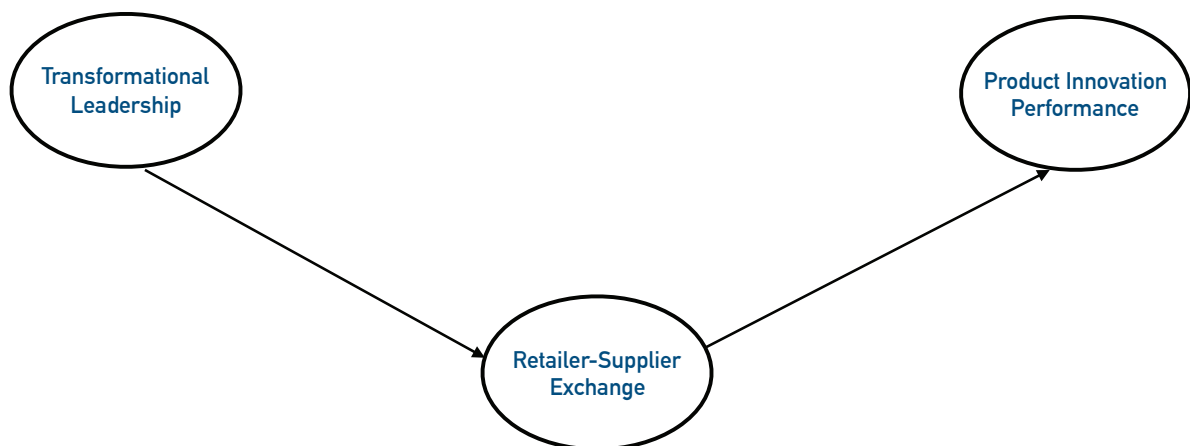
Development of an Initial Model with Leader-Member Exchange as a Mediator between Transformational Leadership and Retailer-Supplier Exchange



Since the association between transformational leadership and innovation or, in the case of this research study, product innovation performance is sparse (Sheehan et al., 2020), all other mediators are explored, including mediation through retailer-supplier exchange, as depicted in Figure 19.

Figure 19

Development of an Initial Model with Retailer-Supplier Exchange as a Mediator between Transformational Leadership and Product Innovation Performance

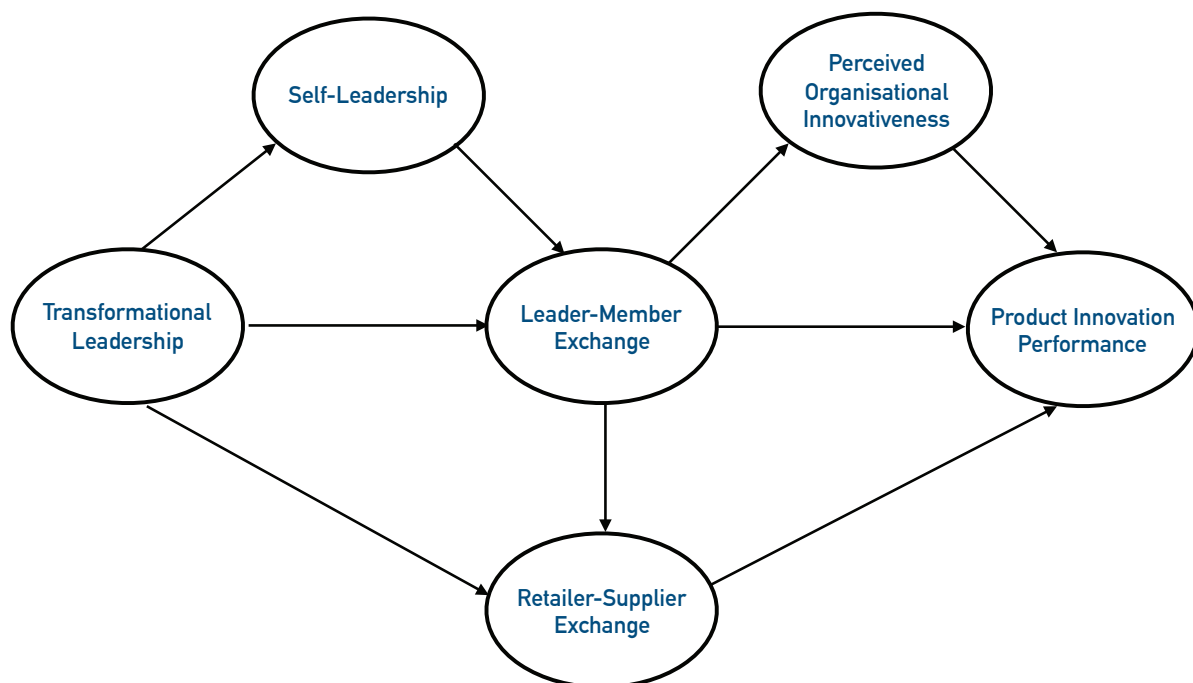


When the interrelationships between internal team members and suppliers are well managed, new knowledge generally flows more smoothly, which may in turn lead to a competitive advantage (Ojha et al., 2018; Birasnav et al., 2011). In cases where the leader has a long-term vision and strategic suppliers are considered in this vision, innovation performance is within reach (Ojha et al., 2018). The retailer-supplier exchange construct as a mediator between transformational leadership and product innovation performance is included as a potential novel contribution by this research study.

The complete initial conceptual model is depicted in Figure 20.

Figure 20

The Initial Model of the Conceptual Relationships



Ultimately, the initial conceptual model in Figure 20 focuses on the significance of leadership and team relational dynamics to achieve performance in product innovation. This research study proposes a contribution in terms of South Africa as an emerging market and its grocery retail and retailer-supplier dynamics, specifically a perspective with regard to quality relationships - both internal and external - and the relationship with product innovation performance. In terms of the type of innovation, the emphasis is on product innovation performance, which ensures that there is some form of end-user traction as a measure of success.

3.2 RESEARCH AIM

The overarching research aim is to investigate the impact of leadership and relational quality on product innovation performance in the South African grocery retail environment.

3.3 RESEARCH OBJECTIVES

Additional research objectives were identified and included in the study:

1. To explore the relationship between, and salient components that underscore, transformational leadership, self-leadership and leader-member exchange
2. To explore the relationship between transformational leadership and leader-member exchange, and to which degree leader-member exchange mediates the relationship between transformational leadership and product innovation performance
3. To explore whether internal stakeholder perceived organisational innovativeness mediate between leader-member exchange and product innovation performance
4. To explore the degree to which leader-member exchange mediates between transformational leadership and retailer-supplier exchange, and whether retailer-supplier exchange enables full indirect mediation between transformational leadership, leader-member exchange and product innovation performance
5. To explore the mediation effect of leader-member exchange between transformational leadership and retailer-supplier exchange
6. To explore the relationship between transformational leadership, retailer-supplier exchange and product innovation performance, and whether retailer-supplier exchange acts as a mediator between transformational leadership and product innovation performance
7. To explore the nuances and the extent to which a strategic open innovation approach with suppliers enables success in terms of product innovation performance
8. To validate the conceptual model that connects transformational leadership to product innovation performance, mediated by self-leadership, internal leader-member exchange quality, external retailer-supplier exchange quality, and perceptions of organisational innovativeness

3.4 RESEARCH QUESTIONS

The main research question is:

What is the impact of leadership and relational quality on product innovation performance in the South African grocery retail environment?

The main research question is followed by ten sub-questions:

1. What is the relationship between transformational leadership, self-leadership and leader-member exchange?
2. To what degree does self-leadership mediate between transformational leadership and leader-member exchange?
3. What is the relationship between transformational leadership and leader-member exchange?
4. To what degree does leader-member exchange mediate between transformational leadership and product innovation performance?
5. To what extent does internal stakeholder perceived organisational innovativeness mediate a relationship between internal leader-member exchange quality and product innovation performance?
6. To what extent does retailer-supplier exchange fulfil a mediation function between transformational leadership, leader-member exchange and product innovation performance?
7. To what extent does leader-member exchange act as a mediator between transformational leadership and retailer-supplier exchange?
8. What is the relationship between transformational leadership and retailer-supplier exchange?
9. To what degree do transformational leaders influence product innovation performance?

3.5 SUMMARY

Chapter 3 positioned the research problem, aim and objectives, culminating in the research questions. The process in Chapter 3 contributed to the development of the conceptual model. Chapter 4 establishes the research methodology, including sample selection and description, ethical considerations, description of the quantitative phase and components, as well as the qualitative research components.

CHAPTER 4: RESEARCH METHODOLOGY

4.1 RESEARCH PARADIGM

The significance of a defined research paradigm is in the logical flow it provides by establishing the philosophical underpinnings to govern the methodological approach (Alharahsheh & Pius, 2020). According to Burrell and Morgan (1979) the two extremes on the research paradigm continuum are either an objective or subjective approach. The research paradigm provides structure and “a deeper philosophical position relating to the nature of social phenomena and social structures” (Feilzer, 2010, p. 7). A research paradigm involves the response to questions of (1) ontology briefly defined as ‘what is known’, (2) epistemology as ‘what and how can we know about it’, and (3) methodological defined as the approach to ‘acquiring more knowledge’ (Kumatongo & Muzata, 2021).

The research paradigm, considered the foundation of research, has also been defined as the ‘philosophical assumptions’ (Shah et al., 2018). According to Saunders et al. (2007), the outer research layer involves the philosophical assumptions and position, which informs the sequential approach to (1) theory development, (2) methodological choice, (3) research strategies, (4) time horizon and (5) techniques and procedures. In operationalising the research “onion” (Saunders et al., 2007, p. 132) for this study:

- Theory development: this research study follows pragmatism as a philosophical approach, that neither favours pure scientific objective enquiry nor purely assuming that the truth is content dependent and therefore subjective (Creswell & Creswell, 2018). Pragmatism includes both quantitative and qualitative research, which achieves a mixed-method approach (Creswell & Plano Clark, 2011; Rahi, 2017). The pragmatist approach is about identifying weaknesses and strengthening the weaknesses by utilising a mixed method approach (Rahi, 2017). Pragmatism is not affiliated with any particular system or philosophy and is considered practitioner-based (Creswell & Creswell, 2018; Shah et al., 2018). While quantitative and qualitative approaches are on either side of the continuum, pragmatism involves a mixed method approach, which is positioned at the midpoint (Shah et al., 2018).
- Methodological choice: research methodology holds at its core the philosophy, values and assumptions that propel the founding motivation of the research towards investigation, and also provides a scaffolding of standards for the interpretation of information, leading to the culmination in a conclusion (Almalki, 2016). Both the quantitative and qualitative data are considered to be deductive and driven by theory (Gelo et al., 2008).

- Research strategies: In line with a mixed-methods design, this study leant on both quantitative and qualitative data for the understanding of the same phenomenon (Kadushin et al., 2008). According to Gray and Densten (1998, p. 420), “quantitative and qualitative research may be viewed as different ways of examining the same research problem”.
- Time horizon: this research observed data from a population at one specific point in time and therefore followed a cross-sectional approach.
- Techniques and procedures: the primary quantitative data involves standardised questionnaires, while the primary qualitative data involve semi-structured interviews.

4.2 RESEARCH DESIGN

The four main typologies of mixed methods are provided in a tabular representation as per Table 7 based on the combined research of Almalki (2016), Creswell and Plano Clark (2011) and Gelo et al. (2008).

Table 7

An Outline of Mixed-Method Typologies

	Triangulation Design (Creswell & Plano Clark, 2011)	Embedded Design (Creswell & Plano Clark, 2011)	Explanatory Design (Creswell & Plano Clark, 2011)	Exploratory Design (Creswell & Plano Clark, 2011)
Essence	Complimentary but different data on the same topic, integrated for analysis and interpretation (Almalki, 2016; Gelo et al., 2008).	One of the two methods are considered primary, where the other plays a supportive role (Almalki, 2016; Gelo et al., 2008).	A two-stage design, where quantitative data is the foundation to build and explain qualitative data (Almalki, 2016; Gelo et al., 2008).	This is considered the reverse of the explanatory model; qualitative data informs the quantitative data gathering process (Almalki, 2016; Gelo et al., 2008).
Benefits	Gathering information from different sources, utilising divergent methods, concludes by meeting in the middle (Almalki, 2016; Gelo et al., 2008).	Requires fewer resources, produces less data and enables efficient completion (Almalki, 2016; Gelo et al., 2008).	Easy to implement; research focus is maintained (Almalki, 2016; Gelo et al., 2008).	Easy to implement; research focus is maintained (Almalki, 2016; Gelo et al., 2008).
Challenges	Efforts and expertise are required to execute triangulation thoroughly (Almalki, 2016; Gelo et al., 2008).	Few examples exist for modelling this direction (Almalki, 2016; Gelo et al., 2008).	Participants unwilling or unable to participate in both (Almalki, 2016; Gelo et al., 2008).	Participants unwilling or unable to participate in both (Almalki, 2016; Gelo et al., 2008).

Note. Adaptation from Almalki, 2016, Creswell and Plano Clark, 2011 and Gelo et al., 2008

The first two columns in Table 7 represent a one-phased approach, which entails the concurrent gathering of both quantitative and qualitative data. In the first column, both quantitative and qualitative data representation are of equal weighting, while in the second column, either method is primary and the other plays a supporting role. The last two columns represent a two-phased approach where the second gathering phase follows and is informed by the other. The quantitative phase is therefore followed by a qualitative phase, and the other way around (Gelo et al., 2008). In this study, a triangulated approach was selected, as outlined by the first column in Table 7. Utilising triangulation increases the validation of data (Lee & Smith, 2012). The foundation of triangulation involved bringing together “differing strengths and non-overlapping weaknesses”, where the quantitative data had a comparatively large sample size, juxtaposed with fewer more in-depth qualitative data (Gelo et al., 2008, p. 280).

4.3 SAMPLE SELECTION AND DESCRIPTION

The South African grocery retail industry shares many of the general global grocery retail attributes (Ganesan et al., 2009). However, there are elements that are specific to a South African business context, which have a unique effect on the grocery retail industry (De Bruyn & Freathy, 2011; Makhitha & Khumalo, 2019; Meyer et al., 2019). In line with the research questions, the aim with the sampling was to identify a representative sample set to reflect grocery retail in a South African setting as a whole. The aim was, therefore to find a grocery retailer in South Africa that could provide a balanced representation, in order to deem the retailer a reliable sample. The company at which the research was conducted is considered one of the top five retailers in South Africa with more than 10% of the market share (Makhitha & Khumalo, 2019). The organisation is considered relevant in a South African retail environment, based on the market size and market segment it serves, with a historic track record and that has successfully existed for decades (Lappeman et al., 2020; Ngouapegne & Chinomona, 2019). The manner in which the supply chain of the chosen retailer of this study is organised is similar to other international and national retailers (Mathekga & Maciko, 2018; Nandonde, 2019). The retailer is therefore a balanced representative of the average international and national retailer in the way in which the retailer operates with suppliers and end-consumers.

4.3.1 Quantitative sample

A reliable research population is one that has a degree of similar characteristics in the unit of analysis (Lalla et al., 2015). According to Leedy and Ormrod (2010), sample size selection is guided by the overall size of the population. For a total population of 1 500, 20% should be sampled, while for a total population of 5 000 or more, a sample size of 400 is deemed sufficient (Leedy & Ormrod, 2010). Owing to the overall length of the survey, only a limited number of biographical details were included among

the survey instruments. All respondents who were approached were considered knowledge workers at varying levels of management - ranging from junior management to senior executives. The respondents were all directly or indirectly involved in product innovation performance, ranging from product developers, food technologists, commercial buyers and marketing team members. The quantitative instruments were distributed with the support of the head of innovation at the organisation, and addressed to head office team members and strategic suppliers, with a detailed description of the research endeavour and a strong encouragement to complete the survey link. The strategic suppliers were selected on the basis of their high levels of exclusivity to the retailer, as well as their contribution to producing products under the grocery retailer's brand name. The quantitative component therefore involved two data collection sample groups, namely: (1) internal teams and intermediary⁸ team members, divided between the two head offices, one in the Western Cape and the other in Gauteng; and (2) external team respondents comprising strategic suppliers to the retailer.

The internal and intermediary team respondents received the quantitative collection of instruments in an emailed Survey Monkey link. While a number of respondents completed all 88 items from these six instruments, some respondents only completed a few of the sections.

Table 8 connects the main themes of the study with the measurement instrument name and how each respondent contributed to their assessment.

Table 8

Measurement Instruments and Representing Constructs Presented to Internal and Intermediary Team Respondents

instrument Name	Construct	Number of Items	Assessment Subject
Transformational leadership inventory (TLI)	Transformational leadership	22	Internal team members assessing transformational behaviour in the leader(s) to whom they report
Abbreviated self-leadership questionnaire (ASLQ)	Self-leadership	9	Internal team members assessing their own self-leadership behaviours
Leader-member exchange (LMX)	Internal team leader-member exchange quality	7	Internal team members assessing the relational quality between each

⁸ The intermediary team members worked as part of the retailer team, but were essentially employed by an intermediary consulting organisation. These intermediary team members worked on the same campus as the internal team members and in collaboration with the same suppliers; however, they were technically considered to be subcontractors. The intermediary team members had the same access to strategy, knowledge, support and access as any internal team member, and were therefore considered part of the internal team.

			individual and their direct leader
Retailer-supplier exchange (RSX)	Exchange quality between internal team members and external team members	7	Internal team members assessing the relational quality of the organisation with their strategic suppliers
Perceived organisational innovativeness questionnaire (PORGI)	Perception of organisational innovativeness	25	Internal team member assessment of their perception of the organisation's innovativeness
Product innovation performance questionnaire (PIP)	Product innovation performance	18	Internal team member assessment of product innovation performance
Total: 88			

For the sake of the partial least squares structural equation modelling (PLS-SEM) data analysis approach, the common denominator of fully completed responses was used in the data, hence the quest to ensure that as many as possible respondents completed the full 88-item survey.

The external team respondents comprised strategic suppliers to the retailer, who received the retailer-supplier exchange (RSX) instrument in an emailed Survey Monkey link, outlined in Table 9.

Table 9

Measurement Instrument and Representing Construct Presented to External Team Supplier Respondents

Instrument Name	Construct	Number of Items	Assessment Subject
Retailer-supplier exchange (RSX)	Exchange quality between internal team members and external team members	7	External team members (strategic suppliers) assessing their relational quality with the organisation

The external team respondents assessed their relational quality with the grocery retailer. The findings of this data set were then compared with the internal team retailer-supplier exchange (RSX) assessment.

Table 10 confirms the total population size for both internal and external team data sets.

Table 10

Survey Instrument Distribution Details

Data Groups	Survey Instruments
-------------	--------------------

	Sent Out
Internal team	2 154
External team	149

The population of internal team members, according to the human resources director for the organisation, totalled 2 154 team members. The exclusive supplier's that were approached to achieve the external team data set totalled 149 respondents.

4.3.2 Qualitative sample

The qualitative sample sets were also selected with the support from the head of innovation at the company, where the predominant quantitative and qualitative data gathering was conducted, along with a personal introduction and orientation regarding the research. The qualitative interviewee participants are from the same population as the quantitative respondents. Since the quantitative data gathering was conducted anonymously, it is not known whether any of the qualitative participants were also quantitative respondents. All interviews were completed prior to commencing with any quantitative and qualitative data analysis. The qualitative component contained three data groups: (1) internal team and intermediary team participants; (2) external supplier participants; and (3) innovation expert participants. All interviewees involved knowledge workers at varying levels of management - ranging from junior management to senior executives. All interviewees, irrespective of data group, were selected on the basis of their close proximity to the product innovation process. These interviewees were either product developers, commercial buyers, or food technologists. These individuals were either directly involved in actual innovation, as was the case with product developers, or in a support function, by providing commercial data or technical expertise. Internal team participants comprised the team members that worked at either of the two head offices, as well as intermediary team participants. The same group of internal and intermediary team participants were also approached to complete quantitative survey instruments, outlined in Table 11. The second group, referred to as external supplier team participants, represented strategic suppliers to the retailer. The same group of external supplier participants was approached to complete the quantitative survey instruments, outlined in Table 11. The third data set, categorised as innovation expert participants, were selected based on their senior stature within the grocery retail ecosystem, with extensive experience as senior product developers, commercial buyers and food technologists.

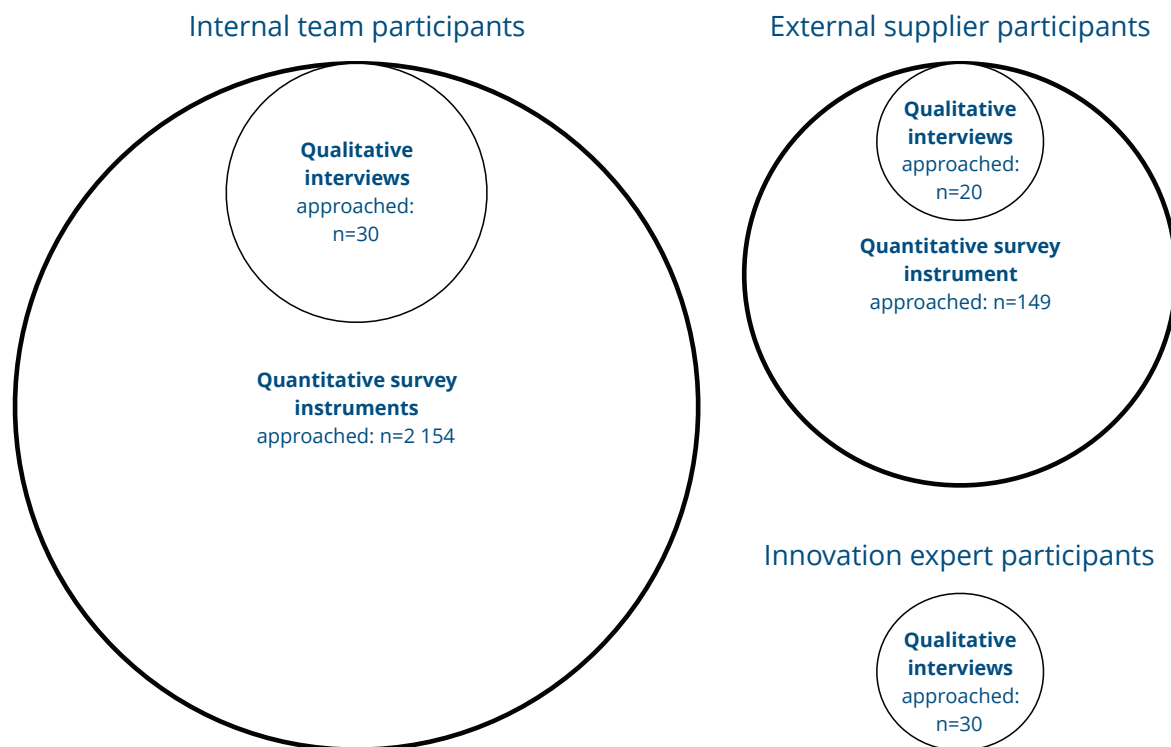
Table 11 outlines the three main data groups and the number of interviewees that were invited for interviews.

Table 11*Interviewee Data Groups*

Data Groups	Interviews
	Invited
Internal Team Participants	30
- <i>Internal Team Members</i>	20
- <i>Intermediary Team Members</i>	10
External Supplier Participants	20
Innovation Expert Participants	30

The first two interviewee groups in Table 11, namely internal team participants and external supplier participants, approached interviewee participants from the same cohort that was approached to complete the quantitative survey instruments. The innovation expert participants approached for interviews are independent industry experts to act as triangulation to ensure trustworthiness in research findings beyond this organisation (Denzin, 1978). All interviews utilised the full 60 minutes set aside, with the exception of three interviews where the interviewee had work interruptions, resulting in a shorter interview.

The quantitative and qualitative data gathering occurred simultaneously. Figure 21 provides a visualisation of the number of approached potential participants for the quantitative and qualitative data gathering.

Figure 21*Number of Participants Approached for Quantitative and Qualitative Data Gathering*

The entire head office team was approached to complete the survey instruments, as shown in the left largest circle in Figure 21 with a total of 2 154 potential participants. A total of 30 internal team participants were approached as part of the qualitative data cohort for interviews. Likewise, the entire exclusive supplier team was approached to complete the supplier quantitative survey instrument, with a total of 149 potential participants. A total of 20 supplier team members were approached for interviews. The aspect of data saturation was considered in the research methodology phase. Data saturation is measured in richness and thickness (Dibley, 2011), where ‘thick’ data is related to the quantity and ‘rich’ relates to the quality (Fusch & Ness, 2015). According to Charmaz (2012), a minimum of twelve interviews per homogenous group should be sought. Baker and Edwards (2012) confirmed 20 interviews per data type to be the aim. The aim was to conduct at least 15 interviews per subset of internal team members, external team members and innovation experts, in line with the guidelines by Granot et al. (2012).

4.4 ETHICAL CONSIDERATIONS

In terms of assessing the risk, this research is considered low risk, since it is centred on a set of non-controversial network activities (Wallace & Sheldon, 2015). The research is undertaken through surveys and in-person interviews, aimed solely at professional adults within a knowledge-worker

context. No physical, psychological or legal risks were present. In line with the guidelines proposed by the National Human Research Protections Advisory Committee (NHRPAC, 2002), data confidentiality and anonymity are best achieved through an upfront commitment to ensure that data movement and sharing of any sort is clearly communicated and, where relevant, obtained from the company in the study. In addition, the NHRPAC recommendation states the importance of obtaining written agreements from any secondary users, stipulating commitment to confidentiality as well as any further limitations for further use. In the case of this research, secondary users included a language editor and a transcriber, who both agreed to and signed confidentiality agreements (refer to Appendix E). A sufficient paper trail was maintained to ensure that sharing data, if done, takes place with the knowledge of the company, with a sufficient level of detail and accountability. In addition, to keep data safe, cloud-based back-ups and password protected files were maintained. At individual level, survey participant anonymity was ensured by disallowing recipient name requests at any stage. A letter of informed consent was completed as part of the Survey Monkey link, prior to commencing with the survey (refer to Appendix E).

In the case of the qualitative data gathering, anonymity was not possible owing to the nature of an in-person interview. The in-person interview confidentiality was assured to the interviewees through a pre-interview, emailed consent form stipulating the rights of the interviewee, as well as a copy of the interview schedule with intended questions. At the start of each interview, the rights in the consent form were repeated as assurance of commitment to confidentiality (refer to Appendix E). Each interview was conducted with the interviewee linked to a code, which was used to identify the transcription, thereby omitting the interviewee's identity from transcriptions. In line with Thompson and Walker (1998), an emphasis of comfortability was maintained throughout each interview, for example: "[I]f at any stage a question makes you feel uncomfortable, you may request we skip the question altogether, or once you have answered and you are concerned about your answer, we can remove your answer from the transcription". There was a sensitivity to the fact that some team members were concerned that their words would 'come back to haunt them', especially that they would be printed verbatim and presented to senior management. Pro-active reassurance was phrased as: "[N]owhere in the research document will you see a quote by you, with your name next to it". Similar to the suppliers, the junior team members exhibited a significant amount of initial reticence. As the interview progressed, an ease developed with greater sharing of valuable information. Maufefette-Leenders et al. (1999) suggested audio-recorded interviews, with prior permission, followed by extensive notes shortly after the interviews.

4.5 QUANTITATIVE PHASE

Quantitative data is focused on 'how much' and juxtaposed with the qualitative 'how' (Pratt, 2009, p. 856). The quantitative phase of this research study attempted to answer the following research questions in greater detail:

1. What is the relationship between transformational leadership, self-leadership and leader-member exchange?
2. To what degree does self-leadership mediate between transformational leadership and leader-member exchange?
3. What is the relationship between transformational leadership and leader-member exchange?
4. To what degree does leader-member exchange mediate between transformational leadership and product innovation performance?
5. To what extent does internal stakeholder perceived organisational innovativeness mediate a relationship between internal leader-member exchange quality and product innovation performance?
6. To what extent does retailer-supplier exchange fulfil a mediation function between transformational leadership, leader-member exchange and product innovation performance?
7. To what extent does leader-member exchange act as a mediator between transformational leadership and retailer-supplier exchange?
8. What is the relationship between transformational leadership and retailer-supplier exchange?
9. To what degree do transformational leaders influence product innovation performance?

4.5.1 Primary quantitative data collection, examination and measurement instruments

The first quantitative sample set, comprising internal and intermediary team members, completed a final research survey that consisted of a total of 88 items spread across six subsections (see Appendix A). These six subsections of the survey corresponded with the constructs in the structural model (refer to Chapter 3), namely: (1) transformational leadership; (2) self-leadership; (3) leader-member exchange; (4) retailer-supplier exchange; (5) perceived organisational innovativeness; and (6) product innovation performance. The survey link was distributed via an email from the head of innovation and addressed to the entire head office team of the business. To ensure a statistically significant response population, the length of completion in the selection of instruments was prioritised. The strength of the final structural equation model was strongly dependent on the completion of all the subsections in the questionnaire, with abandonment at any stage identified as a strong impediment. The self-selection bias is prolific with web-based anonymous surveys and is defined as the phenomenon of potential respondents completing the survey at their own volition (Bethlehem, 2010). In cases where

surveys are web-based and non-compulsory, those that complete the survey may not be accurate representatives of the full population and rather “skew toward certain groups with certain features” (Flanigan et al., 2020, p. 2). In order to mitigate the self-selection bias, the invitation to participate in the research originated with a senior-placed executive in the business. This emailed letter of invitation also confirmed that the survey could be completed via mobile phone, tablet or personal computer, thereby ensuring accessibility to the whole approached population. The letter also stipulated a deadline for completion.

The questionnaire method was advantageous in this particular study owing to: (1) standardised wording; (2) absence of interviewer bias; (3) easily accessible through online distribution; (4) time saving; and (5) assurance of anonymity (Bailey, 1987; Gorman et al., 2005). In addition, standardised instruments ensured the validity and reliability of data (Scholtes et al., 2011). This questionnaire method however disadvantaged the outcome in this particular study because of: (1) lack of flexibility or spontaneity; (2) potential low response rate; (3) lack of control over the environment; and (4) potential of a biased sample (Bailey, 1987; Gorman et al., 2005). Each of the six quantitative subsections or research model concepts are discussed in the next section.

4.5.1.1 Transformational leader behaviour inventory

The multifactor leadership questionnaire (MLQ), developed by Bass (1985), is considered the most widely used instrument to measure transformational leadership (Avolio & Yammarino, 2002). The MLQ was developed by Bass in 1985 and initially included three influential factors, namely charisma, individual consideration and intellectual stimulation (Popper et al., 2000). Over a decade later, Bass and Avolio (1996) divided charisma into two parts: idealised influence and inspirational motivation. The 45-item MLQ, measuring the four dimensions of transformational leadership and also transactional leadership, has formed the basis of studies in a variety of countries, for example USA, Canada, Singapore, Netherlands, Germany and Australia, and a variety of sample groups, for example logistics, military, students, church, health services, educational institutions, private and public firms, hotels and banks (Antonakis et al., 2003; Nemanich & Keller, 2007). Despite the popularity of the MLQ, there are reported problems with its factorial and discriminant validity (Antonakis et al., 2003; Callow et al., 2009; Schriesheim et al., 2006). According to Yukl (1999), the MLQ also omits to measure key behaviours, and is “known to suffer from psychometric shortcomings especially in non-US contexts” (Palrecha et al., 2012, p. 150). As reported by Tejada et al. (2001), the MLQ instrument requires further psychometric refinement. Andressen et al. (2012) expressed criticism of the MLQ instrument owing to its ambiguous and inconsistent factorial structure. Transformational leadership has been measured in the South African context and found to be relevant (Crede et al., 2019; Dlamini et al., 2017;

Engelbrecht et al., 2005; Mokgolo et al., 2012; Ristow et al., 1999; Schlechter & Strauss, 2008). However, the MLQ measurement instrument was found to be problematic for two main reasons. Firstly, the MLQ instrument only measured four dimensions of transformational leadership (Hinkin & Schriesheim, 2008), and did not measure all six of the dimensions of transformational leadership. According to Podsakoff et al. (1990), the transformational leadership dimensions required expansion to include: (1) identifying and articulating a vision; (2) providing an appropriate model; (3) fostering the acceptance of group goals; (4) high-performance expectations; (5) provision of individualised support; and (6) intellectual stimulation. Secondly, the MLQ questionnaire is considered lengthy. Since the quantitative instruments used in this study already entailed a number of items, a 45-item scale appeared to be too onerous for respondents, since only fully completed responses could be included in the final data set. As a result of MLQ length and literature to confirm six dimensions as opposed to four, the effectiveness of the transformational leader behaviour inventory (TLI) was investigated for appropriateness to include in the quantitative component of this study. Based on the six dimensions presented by Podsakoff et al. (1990), the TLI is considered to be a “well established instrument” to measure transformational leadership (Krüger et al., 2011, p. 51), and to be the “most recognised alternative” to the MLQ (Kissi, et al., 2013, p. 489).

The TLI scale instrument proposed by Podsakoff et al. (1990) contains fewer items, while including more transformational leadership dimensions (Rowold & Borgmann, 2013). The original Podsakoff TLI scale consists of 22 items, assessed via a seven-point Likert scale that ranged from strongly disagree to strongly agree (Podsakoff et al., 1996). The scale measures the six dimensions of transformational leadership, namely articulating a vision, providing an appropriate model, fostering the acceptance of group goals, high-performance expectations, providing individualised support, and intellectual stimulation (Wong & Berntzen, 2019). It also includes the measurement of transactional leadership (Krüger et al., 2011). In some cases, the 22-item TLI scale initiated by Podsakoff et al. (1990) has been adapted to include 23-items (Schaubroeck et al., 2007; Wang et al., 2005), 26-items (Krüger et al., 2011), and 29-items (Top et al., 2012). The original 22-item scale was utilised by Podsakoff et al. (1990), Podsakoff et al. (1996), MacKenzie et al. (2001), Pillai & Williams (2003), Bommer et al. (2005) and Kissi et al. (2013), and as a result, was selected for the quantitative component in this research.

The TLI scale developed by Podsakoff et al. (1990) is described as reliable and valid from a psychometric perspective (Krüger et al., 2011; Palrecha et al., 2012; Podsakoff et al., 1990; Schriesheim et al., 2006). The TLI scale has shown validity across several studies (Connell, 2005), cultures (Wong & Berntzen, 2019), gender, hierarchy and type of organisational setting (Krüger et al., 2011). According to Schriesheim et al. (2006), the scale’s factor structure, internal reliability and

concurrent and predictive validity are considered good. According to Krüger et al. (2011), the factorial validity of the TLI is acceptable in both self (leader self-assessment) and follower ratings. In a comparative study between self (leader self-assessment) and follower responses, leaders evaluated their own behaviour more favourably than their follower evaluation of the leaders' behaviour (Krüger, 2012; Krüger et al., 2011). Since this research study obtained follower assessments, the more favourable leader self-assessment was not of concern.

Table 12 presents the comparative reliability estimates of Cronbach's Alphas of initial studies by Podsakoff et al. (1990; 1996), as well as the most recent TLI studies conducted.

Table 12

Comparative Reliability Estimates Across Recent TLI Studies

	Podsakoff et al., 1990	Podsakoff et al., 1996	MacKenzie et al., 2001	Pillai & Williams, 2003	Bommer et al., 2005	Krüger et al., 2011
Core transformational leader behaviour:	0.87		0.86			
Articulating a vision	-	0.87	-	0.85	0.89	0.89
Providing an appropriate model	-	0.84	-	0.88	0.86	0.82
Fostering the acceptance of group goals	-	0.89	-	0.93	0.80	0.90
High performance expectations	0.78	0.80	0.90	0.71	0.75	0.68
Individualised support	0.90	0.90	0.85	0.85	0.90	0.89
Intellectual stimulation	0.91	0.82	0.88	0.85	0.86	0.85
Contingent reward	0.92	n/a	0.79	n/a	0.75	0.89

In 1990, Podsakoff, MacKenzie, Moorman and Fetter conceived the TLI scale with the reliability estimates for this pioneering study's Cronbach's Alpha, presented in the first reporting column in Table 12. The original TLI developed by Podsakoff et al. (1990) indicated that three of the dimensions (articulating a vision, providing an appropriate model and fostering the acceptance of group goals) were found to be highly intercorrelated (Podsakoff et al., 1996). The high levels of intercorrelation were modelled as the indicators of a second-order construct called 'core transformational leader behaviour' (Podsakoff et al., 1990; MacKenzie et al., 2001). In 1996, Podsakoff, MacKenzie and Bommer confirmed the TLI scale as psychometrically robust, with adequate discriminant validity

between the dimensions with reliabilities ranging from 0.80 to 0.90, as is seen in the second reporting column in Table 12. An examination of Table 12, with other studies by Pillai and Williams (2003), Bommer et al. (2005), and Krüger et al. (2011), all indicate that the Cronbach's alpha all exceed the recommended level of 0.70 (Nunnally, 1978), thus contributing to the psychometrical soundness of the TLI scale. The particular length of the TLI instrument makes it conducive to organisations and especially situations that require several other instruments to be administered (Krüger et al., 2011; Lehmann-Willenbrock et al., 2015). Some scholars utilised the TLI scale with the omission of 'contingent reward' as a seventh dimension (Pillai & Williams, 2003; Podsakoff et al., 1996). For the measurement of transformational leadership in this study, both six and seven dimensions were analysed.

4.5.1.2 Self-leadership

Manz and Sims (1987, 1991) developed the self-leadership questionnaire (SLQ) prototype, from which Cox (1994) developed and assessed a 34-item SLQ. Anderson and Prussia (1997) refined the Manz and Sims questionnaire to a 90-item SLQ prototype, which was eventually reduced to a 50-item scale. The 50-item SLQ prototype was amended by Houghton and Neck (Houghton & Neck, 2002; Neck & Houghton, 2006) to culminate in the revised self-leadership questionnaire (RSLQ), which is supported as psychometrically sound and effective as an empirical research tool (Houghton & Neck, 2002; Neck & Houghton, 2006). The Houghton and Neck (2002) RSLQ has nine factors: self-goal setting, self-reward, self-punishment, self-observation, self-cueing, natural rewards, visualising successful performance, self-talk, and evaluating beliefs and assumptions (Neubert & Wu, 2006). The RSLQ is a 35-item scale (Houghton & Neck, 2002). Since its first publication, the revised self-leadership questionnaire (RSLQ) has been validated through a variety of sample sizes (Houghton et al., 2012) and a variety of cultural settings, namely China (Neubert & Wu, 2006), Germany (Andressen & Konradt, 2007), Turkey (Şahin, 2015), Israel (Stashevsky et al., 2006) and South Africa (Mahembe et al., 2013; Van Zyl et al., 2018). Both Mahembe et al. (2013) and Nel and Van Zyl (2015) found the RSLQ to be suitable in a South African context. The revised self-leadership questionnaire (RSLQ) is considered robust but lengthy (Flores, 2020), which was problematic for this research study since the goal was to have a high response rate.

The abbreviated self-leadership questionnaire (ASLQ) is a shortened version, which was shaped by Houghton et al. (2012), and recommended: (1) when a general self-leadership score is sufficient; and (2) where a short measurement instrument is an imperative (Nel & Van Zyl, 2015; Flores, 2020). The ASLQ instrument is considered globally relevant (Şahin, 2015). It is a 9-item questionnaire that merges into three factors, namely: (1) behaviour awareness and volition; (2) task motivation; and a (3)

constructive cognition, and uses a five-point Likert scale (Houghton et al., 2012). Confirmatory factor analysis demonstrates a good fit of all three factors to the data in the Şahin (2015) study and is illustrated in comparison to the other studies in Table 13.

Table 13

Comparative Reliability Estimates Across Recent ASLQ Studies

	Houghton et al., 2012	Nel & van Zyl, 2015	Şahin, 2015	Kotze, 2018	Flores, 2020	Harunavamwe et al., 2020
Behaviour focused	0.70	0.85	0.80	n/a	n/a	0.89
Constructive cognition	0.54	0.70	0.69	n/a	n/a	0.88
Task motivation	0.67	0.77	0.79	n/a	n/a	0.73
Composite	0.73	0.89	0.76	0.77	0.84	0.93

In Table 13, the first response column outlines the Cronbach's alphas for the initial study conducted by Houghton et al. (2012). Respectively, Nel and Van Zyl (2015) and Şahin (2015) studied ASLQ and RSLQ in tandem. Şahin (2015) studied ASLQ and RSLQ in tandem, among a Turkish sample, and concluded that while the ASLQ correlated differently to the sub-dimensions of the RSLQ, the overall result yielded internal consistency. The ASLQ is robust when utilised as an overall measure of self-leadership (Şahin, 2015). Nel and Van Zyl (2015) tested the RSLQ and ASLQ in a South African working population. In the original study by Houghton et al. (2012), a Cronbach's alpha for the total scale was 0.73; in contrast the study by Nel and Van Zyl (2015) yielded a much higher reliability estimate of 0.89. In addition, Nel and Van Zyl (2015) reached the same conclusion as Şahin (2015) in that the ASLQ is an ideal instrument to measure self-leadership as a whole. However, if a researcher is interested in the sub-dimensions of self-leadership, the RSLQ should be administered (Şahin, 2015; Nel & Van Zyl, 2015). Kotze (2018) utilised the ASLQ in a combined study with other constructs, and the findings yielded a Cronbach's alpha of 0.77, which is higher than the founders' alpha, but not as high as Nel and Van Zyl's findings (Nel & Van Zyl, 2015). Since the abbreviated self-leadership questionnaire has been tested in a South African context and deemed sufficiently robust (Nel & Van Zyl, 2015; Kotze, 2018; Harunavamwe et al., 2020), it was selected to measure self-leadership in this research study.

4.5.1.3 Leader-member exchange

Schriesheim et al. (1999) examined and analysed 147 research endeavours that deployed the spectrum of vertical dyad linkage and/or leader-member exchange instruments from 1972 until 1999. Seminal LMX research was continued by Gottfredson et al. (2020), which included a review of leader-

member exchange deployed instruments between 2014 and 2019. Gottfredson et al. (2020) asserted that even among most leader-member exchange scholars, the consensus regarding the best instrument to measure quality of relational exchange remains low. The leader-member exchange (LMX) instrument tests the strength of relational quality and has gone through various iterations since its inception in 1972 (Graen & Uhl-bien, 1995; Schriesheim et al., 1999). Official leader-member exchange theory started with the notion of a unique interdependent relationship between a leader and follower (Graen et al., 1972). From there, it quickly evolved to be about the quality of exchange, and by 1975 it became transfixed with the interpersonal exchange relationship, that gave way to exchange relationships and patterns (Schriesheim et al., 1999). The iterations of a measurement scale for LMX have been contentious in: (a) finding a match between redefined LMX theory and a measure that represents these findings; and (b) resolving whether it is unidimensional or multidimensional in nature (Graen & Uhl-bien, 1995).

LMX-7 is the most commonly used scale in LMX research (Dulebohn et al., 2017). The LMX-7 was developed by Scandura and Graen in 1984 (Schriesheim et al., 1999), finalised by Liden et al. in 1993 (Dulebohn et al., 2017) and Graen and Uhl-bien in 1995 (Adair, 2015). The LMX-7 scale studies the main dimensions of LMX theory, namely: (1) contribution; (2) loyalty; (3) affect; (4) trust; (5) respect; (6) openness; and (7) honesty. Each of these items has five anchored response options in the form of a Likert scale (Graen & Uhl-bien, 1995). The instrument is generally addressed to followers to assess their relationship with their direct leaders; however, it has also been used in reverse by substituting the word 'leader' with 'follower'. Examples of item-tailoring include: 'How do you characterise your working relationship with your leader?' amended to 'How do you characterise your working relationships with your followers?' (Graen & Uhl-bien, 1995). In the case of this research, the perspective of the follower was sought, and the original wording was maintained.

LMX-7 has been utilised in over 70% of the most recent studies of leader-member exchange and has seven items and three dimensions, namely: (1) respect; (2) trust; and (3) obligation, and is aggregated into one single measure of leader-member exchange (Dulebohn et al., 2017; Schriesheim et al., 1999). Approximately 14% of recent studies on leader-member exchange used the LMX-MDM scale (Dulebohn et al., 2017). The LMX-MDM has 13-items and four dimensions, namely: (1) affect; (2) loyalty; (3) contribution; and (4) professional respect. While these two scales overlap significantly, the LMX-MDM-scale leans heavily on liking or affect, which introduces a new element that is not fundamentally supported by the core of LMX theory (Dulebohn et al., 2017). 'Liking' in the context of LMX theory could explain differential relationships from one dyad to the following, in that liking may influence a leader to invest more in a follower dyad. The aspect of liking created a diversion from the

goal of this research study, namely quality of relational exchange. The aspect of liking or affect as part of the LMX-MDM-scale therefore contributed to the inappropriateness of this instrument for this research study.

The reliability of LMX-7 demonstrated a Cronbach's alpha of 0.89 in the study of Barbuto et al. (2012) and 0.92 in the study of De Oliveira & Da Silva (2015). The LMX-7 scale has been deployed in a South African setting with a Cronbach's alpha of 0.91, with a recommendation to investigate translated versions to avoid misunderstanding (De Villiers & Stander, 2011). A South African financial services sample administered the LMX-7 and a Cronbach's alpha of 0.93 was reported (Els et al., 2016). Therefore, in a South African setting, this instrument demonstrated sufficient validity and reliability. Huang et al. (2008) deployed the LMX-7 for a dyadic sample group where the Cronbach's alphas for the leader respondents were 0.87, and 0.78 for the follower respondents, and asserted that the same relationship was rarely viewed unilaterally. The centrality of the research topic was concerned with quality of exchange between leader and follower relationships, which was sufficiently measured by LMX-7, without making detours by incorporating other aspects such as, for example, liking. The LMX-7 scale was therefore selected as appropriate for this study.

4.5.1.4 *Retailer-supplier exchange*

For measuring the relational strength between retailers and their suppliers, there does not seem to be a specific instrument available, as far as could be established. Traditionally, managing overall relationships with suppliers has been weighted towards performance, measuring aspects of success, bottlenecks, waste, and not specifically honing in on the relational component (Kaplan & Norton, 1996). A review of supplier chain performance measurement systems by Balfaqih et al. (2016) from 1998 to 2015 makes no mention of relational exchange or quality, while iterating all the transactional elements such as processes, responsiveness, quality, and efficiency.

In order to measure the relational exchange quality between the retailer and its strategic suppliers, this study adapted the leader-member exchange (LMX-7) instrument, by changing specific words in order to represent an assessment of the retailer-supplier relationship. This research study seems to be the first instance where any leader-member exchange instrument, including LMX-7, was converted into a retailer-supplier context. The instrument was named retailer-supplier exchange to make it more exact in terms of what the measurement objective was, namely to test the strength of the relational quality between the retailer and the supplier. The adaptation was done by simply replacing the terms 'leader' with 'retailer' and 'follower' with 'supplier'. For instance, the seven items were adapted from 'How do you characterise your working relationships with your leader?' to 'How do you characterise

your working relationships with your suppliers?', where it pertained to internal team member respondents. External team members or strategic supplier respondents would have the same item presented, for instance: 'How do you characterise your working relationships with [retailer name here]?'. The adaptation aimed to make the questionnaire more relevant in a retailer-supplier context. It is argued that these changes are minimal and do not change the meaning of the wording in the items, and should thus not detract from the established validity of the LMX-7. In the case of the retailer-supplier converted LMX-7 instrument, the study was able to obtain responses from both retailer and supplier respondents.

4.5.1.5 Perceived organisational innovativeness

Hurt and Teigen (1977) pioneered the development of a scale for the direct measure of perceived organisational innovativeness (PORGI). Hurt and Teigen's main goal was to "correctly predict satisfaction with certain aspects of employment and the degree of employee participation in the organizational-decision process", as well as to explore "the impact of perceptual discrepancies of organizational innovativeness between employees and management personnel on the acceptance and continued use of an innovation" (Hurt & Teigen, 1977, p. 383). The organisational innovativeness scale was designed to measure the perception of a member of an organisation regarding the organisation's orientation toward change (Maushak, 1997). PORGI may be interpreted as the perception of willingness to adapt. Research has indicated that a willingness to adapt is associated with several patterns of behaviour (including communication) relating to change (Maushak, 1997). The instrument culminated in a one-dimensional 25-item scale with a five-point Likert-type scale. According to the scale, a score of 90 indicates high levels of innovativeness, whereas below 50 the score is indicative of low innovation. Moderate levels of innovation exist where the score is between 50 and 90 (Hurt & Teigen, 1977). The scoring outcome results in organisations being categorised into one of five groups that have been defined by Rogers (1995) as follows: (a) innovators; (b) early adopters; (c) early majority; (d) late majority; and (e) laggards or traditionalists. The organisational innovativeness scale has been found to be highly reliable (alpha above 0.90) and the predictive validity is very good (DeMarzo, 2018). Eisele (2017, p. 136) deployed PORGI in a Swedish context yielding an alpha of 0.98 and reported a "very high internal consistency". Reed (2006) utilised the instrument to assess the innovation climate or innovativeness, and the study yielded an alpha of 0.76. Pallister & Foxall (1998) utilised PORGI among two different British subsets and yielded alphas of 0.86 and 0.90. Maushak (1997) studied innovativeness in an education setting and the outcome was a Cronbach's alpha of 0.94. PORGI has been used in a South African context by Swart (2013) with a Cronbach's alpha of 0.90, and Dean (2018) with an alpha of 0.88. According to Leko-Šimić and Horvat (2005), PORGI is one of the best-known instruments to measure organisational innovativeness or to assess an

organisation's willingness to adopt innovations (DeMarzo, 2018). Since PORGI is perception-based, it may be useful to verify the findings with some other form of innovation measure (Maushak, 1997).

The instrument has been applied to individuals and organisations as the subject (Socketel & Mak, 2004; Reed, 2006; Williams, 2013). In the case of an individual, the wording might be 'I consider myself to be creative and original in my thinking and behaviour', and this could be adapted to the group as, 'I consider my organisation to be creative and original in its thinking and behaviour'. Williams (2013) studied the perceived individual and perceived district innovativeness among superintendents in South Carolina: his findings concluded that they were more likely to be honest when they assessed the district's innovativeness as opposed to their own. Williams discovered a gross effect of self-inflation, specifically when self-perceptions were compared with actual performance. In the case of this research study, respondents are assessing the innovativeness of their organisation, and aspects of self-inflation were not a valid concern.

The PORGI-measure was deemed appropriate to include as part of the quantitative research instruments in this research study for the following three reasons: (1) this measure is used in tandem with another measure (per Maushak, 1997), namely product innovation performance questionnaire; (2) previous studies all reported reliability via sufficiently high Cronbach's alphas; and (3) the instrument has been used in a South African context with sufficient reliability.

4.5.1.6 Product innovation performance

The measurement of product innovation performance is vital to assess commercial success of time and resource investments (Montero et al., 2017). According to Cirera and Muzi (2020), innovation surveys, as a measure to ascertain the success of a particular innovation, date back to the time shortly after WWII. The 1950s witnessed large-scale surveys to measure whether research and development activities were justified, and up to the 1980s, most innovation surveys followed an object-based approach, which entailed a focus on individual innovation efforts (Cirera & Muzi, 2020, p. 2). Contemporary innovation surveys have either been focused on: (1) firm-level innovation activities like inputs and outputs; or (2) significant technological innovations involving an expert's appraisal (Smith, 2005). The most commonly used approach to assess product innovation performance has been through performance surveys where the total cost of the project, on-time delivery of a development project, actual product cost compared to budget, actual versus target time for project completion, and lead time to market were considered (Driva et al., 2000). Innovation surveys should take into account at least a 36-month period (Gault, 2013) and should be posed to R&D directors because they control the traffic in terms of innovation inputs and outputs (Alegre et al., 2006).

Generic measurement of innovation performance does not exist (Arteche et al., 2017; Edison et al., 2013), as far as could be established. The concept of innovation performance measurement is elusive, since it is a multidimensional concept that should include product quality, market response and financial effect, which are also known as the end-user or market reward for a useful new product (Choon & Lee, 2019; Edison et al., 2013). Hannachi (2015) asserted that innovation performance measurement spans a few areas, including commercial, financial, technical and global, which spawned the creation of the product innovation performance (PIP) survey instrument. Hannachi (2015) assessed the items and dimensions gleaned from five seminal studies on product innovation performance (Alegre et al., 2006; Blindebach-Driessen et al., 2010; Griffin & Page, 1996; Hsu & Fang, 2009; Storey & Easingwood, 2009). The conclusion of Hannachi's work included the following areas of performance which were salient to assessment: (1) financial; (2) technical; (3) customer; (4) market; (5) product; (6) operational; (7) efficiency; (8) efficacy; (9) sales performance; (10) profitability; and (11) enhanced opportunities. Hannachi (2015) developed the multidimensional product innovation performance (PIP) measurement scale in a French biotechnology setting, which considers the perception measures and the performance of a product as output. The PIP-scale consists of 18 items which are divided into five sections, namely financial, marketing, technical, customer and strategy. The PIP-scale was deemed valid and an appropriate measurement instrument (Hannachi, 2015) with reliability estimates is listed in Table 14.

Table 14

Comparative Reliability Estimates Across Recent PIP-Scale Studies

	Hannachi, 2015	Manthey et al., 2016	Hooi et al., 2018	Eren, 2019
Financial	0.855	n/a	0.890	n/a
Marketing	0.838	n/a	0.931	n/a
Technical	0.815	n/a	0.891	n/a
Customer	0.821	n/a	0.885	n/a
Strategic	0.811	n/a	0.882	n/a
Combined alpha	0.95	0.72	0.95	0.79

Manthey et al. (2016) utilised the PIP-scale in a textile setting with 94 managers and concluded that it was relevant and applicable. The research paper was written in Portuguese, without an available translation. However, the Cronbach's alpha of 0.72 was confirmed for the particular study of Manthey et al. (2016). Hooi et al. (2018) deployed the PIP-scale in a Malaysian context and deemed it a reliable instrument, with a Cronbach's alpha of 0.95. Eren (2019) utilised the instrument in a Turkish-based study among 328 white-collar employees across 53 manufacturing organisations, which yielded a

Cronbach's alpha of 0.79. In these last three cited studies (Eren, 2019; Hooi et al., 2018; Manthey et al., 2016), the composite Cronbach's alphas of 0.72, 0.95 and 0.79 compare acceptably with the alpha of 0.946 in Hannachi's study. Based on the requirement for a scale's alpha to be more than 0.7 (Hair et al., 2019; Nunnally, 1978), the PIP-scale's composite is reliability confirmed. Hannachi's product innovation performance (PIP) measurement scale was considered appropriate to use in the context of this research study for two main reasons: (1) the previous studies (Eren, 2019; Hooi et al., 2018; Manthey et al., 2016) were conducted in emerging developing economic contexts; thus appropriate to deployment in a South African setting; and (2) the PIP-instrument considers the multidimensional aspects of product innovation performance.

4.5.2 Primary quantitative data analysis

The analysis of the quantitative data was done in collaboration with the Centre for Statistical Consultation⁹ at Stellenbosch University. The data were collected from two geographically separate head office teams, then downloaded and combined into one excel spreadsheet. The next step was to ensure data completeness since only fully completed records were included in the final sample set. For example, if a respondent failed to complete all 88 items in the questionnaire, this particular respondent was excluded from the final PLS-SEM data set. The completeness of the data was essential, since the main objective of this research study was to analyse the relationship between traits utilising a structural equation model (SEM).

Structural equation modelling (SEM) enables the incorporation and comprehension of a myriad of relationships amid complexity (Hair et al., 2019; Voth-Gaeddert & Oerther, 2014). Statistical analysis, and in particular structural equation modelling (SEM), has been an essential and indispensable analysis approach for social science research for more than a century (Kline, 2005; Neuendorf, 2002). Specifically, it is well suited to multivariate analysis (Hair et al., 2014; Kline, 2005; Neuendorf, 2002; Xiong et al., 2015) and was therefore appropriate to utilise for the quantitative component of this research study. Structural equation modelling is subdivided into two respective approaches: (1) partial least squares (PLS-SEM, also called PLS path modelling); and (2) covariance-based (CB-SEM) (Kline, 2005; Hair et al., 2014). Both partial least squares path modelling (PLS-SEM) and covariance-based (CB-SEM) entail a visual display of hypothesis and observed variable relationships, where constructs are visualised as ovals and manifest variables are in rectangles with arrows toward constructs (Kline, 2005; Hair et al., 2014). PLS-SEM is most suitable where theory is less developed, and "if the primary objective of applying structural modelling is prediction and explanation of target constructs" (Hair et

⁹ A division of the Department of Statistics and Actuarial Sciences

al., 2014, p. 14). The second-mentioned covariance-based structural equation modelling (CB-SEM) is deemed appropriate when the sample size is very large (Kline, 2005) and the “goal is theory testing, theory confirmation, or the comparison of alternative theories” (Hair et al., 2014, p. 19). While the two aforementioned SEM approaches were developed at the same time, the development did not occur in parallel (Hair et al., 2019). Initially, PLS-SEM deployed many of the same measurement confirmation metrics as CB-SEM. However, recently, PLS-SEM methodology has become more established, with a different set of criteria and terminology (Hair et al., 2019; Hair et al., 2020; Sarstedt et al., 2017). As an example, goodness-of-fit indices are considered the bedrock of CB-SEM measurement model assessment, while Hair et al. (2020) describe the application of goodness-of-fit indices “highly questionable in a PLS-SEM context” (p. 103). An example of terminology divergence between PLS-SEM and CB-SEM is the emergence of ‘composites’ to describe PLS-SEM measurement models/constructs (Hair et al., 2020). Richter et al. (2016a) further asserted that PLS-SEM has different characteristics and objectives and therefore transposing CB-SEM methodology is inappropriate. According to Ali et al. (2017), PLS-SEM reporting standards are inconsistent and often studies are selective about which assessment models to apply.

The quantitative analysis for this research study primarily followed a PLS-SEM analysis approach owing to: (1) the total sample size being too small for a CB-SEM approach (Xiong et al., 2015); and (2) the model comprising many constructs and a large number of items (Hair et al., 2019). However, for the outer model assessment, CB-SEM analysis was included with a confirmatory factor analysis (CFA). While the CFA inclusion is considered questionable as part of PLS-SEM analysis, it was conducted as an additional check for robustness of the outer model. The completion of the CFA enabled the confirmation that the latent structure of each subscale satisfied fit index criteria. Table 15 itemises the critical steps followed as part of the quantitative data analyses.

Table 15

Sequence of Events as Part of the Quantitative Analyses

Steps	PLS-SEM process	
	Aspect	Addressed in this study
Step 1	Development and specification of structural model	Chapter 3
Step 2	Measurement instruments are specified to match the constructs in the structural model	Chapter 4
Step 3	Data collection and examination	Chapter 4
Step 4	Assessing outer-model results of reflective measurement models	Chapter 5
Step 5	Assessing inner-model results of the structural model	Chapter 5
Step 6	Merging SEM results with qualitative findings	Chapter 7

While steps one and two in Table 15 built the model in a theoretical fashion, steps three and four commenced the examination of the structural model in a more practical manner. Step three involved the data collection and examination phase. Step four and five entailed the utilisation of various software packages¹⁰ to run the algorithm in order to estimate general and specific results pertaining to the structural equation model (Hair et al., 2014). Step four was the assessment of the reflective measurement models, or outer-model assessment, where each of the measurement instruments for each of the constructs were assessed for robustness in isolation (Hair et al., 2019). Prior to assessing the structural model in its entirety, it was essential to ensure that each individual construct measured the items it was intended to measure in a statistically satisfactory manner. Step five involved structural equation model analyses, or inner-model assessment, with the focal point of the relationships between the constructs, as well as the mediation function potentially fulfilled by some of the constructs in the model. PLS-SEM studies generally do not include the analysis of mediating effects, with approximately a third of studies including mediation analysis (Nitzl et al., 2016). The mediating effect in the context of PLS-SEM analysis is defined as “a third variable that plays an intermediate role in the relationship between the independent and dependent variables” (Nitzl et al., 2016, p. 1851). There are two different types of mediation effects, namely full and partial mediation (Albort-Morant et al., 2018). Full mediation is defined as a significant indirect relationship between two variables via a third variable, specifically in the absence of a significant and direct relationship (Sarstedt et al., 2020). In order that the mediation effect has statistical significance, each of the path coefficients on both sides of the potentially mediating variable must have a high value (Memon et al., 2018). Partial mediation occurs in one of two ways: (1) complementary partial mediation; and (2) competitive partial mediation (Albort-Morant et al., 2018). Complementary partial mediation occurs when the direct effect and indirect effect both point in the same direction and both load with significant path coefficient values (Albort-Morant et al., 2018). Competitive partial mediation involves direct and indirect effects that occur in different arrow directions (Albort-Morant et al., 2018).

Steps four and five are described in greater detail in the next two subsections.

4.5.2.1 Reflective measurement models: outer-model assessment

The PLS-SEM assessment consists of two primary phases, outer- and inner-model assessment (Hair et al., 2017). The outer model assesses the individual measurement models or instruments, while the

¹⁰ Statistika 14.0 enabled the general statistics; SmartPLS3 enabled the PLS-SEM analyses; and the Lavaan package was used to determine the confirmatory factor analyses.

inner-model assessment pertains to the structural paths between each of the constructs (Hair et al., 2019). According to Hair et al. (2017), the outer model's reliability is first to be established by focusing on relationships of items with the constructs themselves, and how well the measurement construct measures. When SEM quantitative measures are utilised, 'face validity' is insufficient and in-depth reliability analyses are required (Hair et al., 2017, p. 111). The outer-model assessment therefore involves the verification of reliability and validity (Hair et al., 2014). The confirmatory factor analysis (CFA) was included in this section.

1. **Reflective indicator loadings** at ≥ 0.708 indicated that the "construct explains more than 50% of the indicator's variance, demonstrating that the indicator exhibits a satisfactory degree of reliability" (Sarstedt et al., 2017, p. 16).
2. **Internal consistency reliability:** traditionally internal reliability was assessed using: (1) Cronbach's α ; however, recently (2) composite reliability was added as more appropriate (Hair et al., 2014). Cronbach's α was evaluated as the 'lower bound' and composite reliability was the 'upper bound' for internal consistency reliability (Hair et al., 2019, p. 15). **Composite reliability** or construct reliability measured internal consistency in scale items, in a similar way that a Cronbach's alpha measures reliability or internal consistency - for reliability it is recommended for both Cronbach's α and composite reliability loadings to be between 0.70 and 0.90 (Hair et al., 2019; Nunnally, 1978).
3. **Convergent validity** was commonly measured as average variance extracted (AVE) in the form of a correlation coefficient, with an acceptable loading at ≥ 0.50 (Hair et al., 2006; Othman et al., 2014). AVE reported the amount of variance captured by a construct in relation to the amount of variance due to measurement error (Ab Hamid et al., 2017). Convergent validity fulfils a similar function to composite reliability in the sense that both measure the quality of a measurement instrument.
4. **Goodness-of-fit indices:** Sarstedt et al. (2017), Hair et al. (2019) and Hair et al. (2020) asserted that PLS-SEM does not have a corroborated goodness-of-fit measure. According to Sarstedt et al. (2017), there are some GoF-indices that should be conducted in parallel to the previously measured assessment mechanisms; for example, standardised root mean square residual (SRMR), normed fit index (NFI; also referred to Bentler-Bonett index) and the non-normed fit index (NNFI; also referred to the Tucker-Lewis Index). While Hair et al. (2020) described the goodness-of-fit indices for PLS-SEM as questionable, the analysis was included alongside the other assessments as part of the outer-model assessment. Table 16 indicates that the fit indices applied as part of the outer-model assessment.

Table 16*Cut-Off Criteria of Several Fit Indices*

Indexes	Shorthand	General rule for acceptable fit
Absolute fit		
Chi-square	χ^2	Ratio of χ^2 to $df \leq 2$ or 3 , useful for reanalysed models
Comparative fit		
Normed fit index	NFI	≥ 0.95 for acceptance
Comparative fit index	CFI	≥ 0.95 for acceptance
Other		
Goodness-of-fit index	GFI	≥ 0.95
Adjusted GFI	AGFI	≥ 0.95
Root mean square residual	RMR	The smaller, the better; 0 indicates perfect fit
Standardised RMR	SRMR	≤ 0.08 (≤ 0.05 according to Diamantopoulos and Sigauw, 2013)
Root mean square error of approximation	RMSEA	< 0.06 to 0.08 with confidence interval

Note. Reproduced from Schreiber et al., 2006, p. 330.

This research study included several of the fit indices included in Table 16, in order to create a holistic picture of suitability of the instrument to measure the specific construct. As an example, if only the chi-squared test is conducted, a researcher may fail to reject an unsuitable reflective measurement model, since sample size affects the ratio in question.

1. **Discriminant validity** indicated that the constructs in the model were well distinguished from each other (Hussain et al., 2018), and were typically included in PLS-SEM analysis (Hair et al., 2020). In order to conduct this part of the analysis, the heterotrait-monotrait ratio of correlations (HTMT Ratio) indicated cross-over in constructs, and where they were closer to 1, it indicated that it could be one construct, or “lack of discriminant validity” (Ab Hamid et al., 2017, p. 3). Ideally the ratio needed to be < 0.85 for conceptually different constructs and < 0.90 for conceptually similar constructs (Hair et al., 2019).
2. **Construct correlations** were assessed by means of Pearson’s correlation coefficient and were included in the analysis in order to complete the outer-model assessment prior to progressing to the structural inner-model assessment.
3. The constructs were deemed reliable and valid if all of the six outer-model assessments were within recommended ranges. Following the outer-model suitability, the inner-model assessment phase commenced.

4.5.2.2 *Structural equation model: inner-model assessment*

The next step was the assessment of the structural model results, also referred to as inner-model reliability. The relationship between transformational leadership, self-leadership, leader-member exchange, retailer-supplier exchange, perceived organisational innovativeness, and product innovation performance was assessed through the application of a structural equation model, which involved the assessment of four aspects, namely:

1. **Collinearity:** the initial stage of inner-model assessment involves ascertaining each construct to be sufficiently different from the others. Collinearity was assessed and multicollinearity generally occurs when two or more explanatory variables in a multiple regression model are highly linearly related (Sarstedt et al., 2020). Multicollinearity occurs when one predicted variable can be used to predict another. Perfect, or ideal, multicollinearity exists when the correlation between two independent variables is equal to 1 or -1 (Hair et al., 2019). In cases where the multicollinearity is bigger than 5, it becomes problematic (Hair et al., 2019).
2. **Coefficient of determination** is expressed in the form of the R^2 -value, which is the amount of variance explained by the endogenous latent variables in the structural model (Streukens & Leroi-Werelds, 2016). The higher the R^2 values, the better the construct is explained by the latent variables (Hussain et al., 2018). R^2 values are considered to be substantial if ≥ 0.75 , moderate between 0.75 and 0.50, and weak at 0.25 (Hair et al., 2019). The higher the R^2 value, the higher the predictive ability of the model (Hair et al., 2020).
3. **Path coefficients** assess the relationships between the latent variables in the structural model and whether they are significant (Ringle & Sarstedt, 2016), and was conducted as part of the inner-model assessment. The path coefficient scores are generally between -1 and 1. The closer to 1, the stronger the path and, therefore, the relationship between these two constructs (Hair et al., 2019).
4. **PLS-SEM and CB-SEM comparison:** while this research study assessed the structural model according to PLS-SEM methodology, the quantitative data were also expressed in a final CB-SEM model. The two approaches were compared as a final check in robustness. While CB-SEM required a larger sample set, the signal provided in areas where it correlated with PLS-SEM, aided as a support for the final structural model of this research study.

4.6 QUALITATIVE PHASE

Qualitative data can be viewed as an expansion in the context of 'how', juxtaposed with the often 'how much' quantitative data counterpart (Pratt, 2009). Qualitative data can also be viewed as 'how things are' and as giving a 'real world' perspective (Abraham et al., 2021). Qualitative data can be

viewed as an encompassing research concept that includes a range of methodologies like grounded theory, phenomenology, discourse analysis and ethnography, among many others (Sant, 2019). According to Sant (2019), each of these quantitative methodologies are closely associated with a specific method of collection and analysis and are rooted in research questions.

The qualitative phase was included in the study in order to approach the research questions from a different perspective, by including different data, in order to meet in the quantitative data in the middle (Almalki, 2016; Gelo et al., 2008). Firstly, including a qualitative aspect in the study enabled a broadened understanding of the conceptual interrelationship between leadership and relationships within an organisation and, in turn, the effect on innovation performance. The relationships between the concepts of the research questions were interpreted through a quantitative structural equation model. While a SEM-approach provided a comprehensive overview of the relationships between concepts, the qualitative data provided depth of understanding and implications. Secondly, the purpose of the qualitative phase was to ensure that the quantitative findings of this particular data set could be extrapolated to the general body of literature, by contextualising and balancing through qualitative data.

The qualitative phase of this research study attempted to answer the following research questions in greater detail than was obtained in the quantitative phase:

1. What is the relationship between transformational leadership, self-leadership and leader-member exchange?
2. To what degree does self-leadership mediate between transformational leadership and leader-member exchange?
3. What is the relationship between transformational leadership and leader-member exchange?
4. To what degree does leader-member exchange mediate between transformational leadership and product innovation performance?
5. To what extent does internal stakeholder perceived organisational innovativeness mediate a relationship between internal leader-member exchange quality and product innovation performance?
6. To what extent does retailer-supplier exchange fulfil a mediation function between transformational leadership, leader-member exchange and product innovation performance?
7. To what extent does leader-member exchange act as a mediator between transformational leadership and retailer-supplier exchange?
8. What is the relationship between transformational leadership and retailer-supplier exchange?
9. To what degree do transformational leaders influence product innovation performance?

The qualitative data was collected through semi-structured interviews. Interviews that are conducted in semi-structured style allow for topic elaboration in a dynamic setting (Bailey, 1987; Greeff, 2002). Expanding on a topic often leads to unexpected information, which Bauman et al. (2002) suggests should be perceived as a 'conversation with purpose' in order to elicit maximum authenticity. According to Yin (1994), interviews enable multiple vantage points and it is ideal to conduct as many as possible with those directly and indirectly involved to ensure balanced information. The disadvantages of including interviews, according to Bailey (1987) and Gorman and Clayton (1997), include the loss of anonymity, potential inconvenience, and time constraints on interviewing, and potential lack of accessibility to ideal participants. The loss in anonymity may affect ultimate truthfulness in responses, owing to interviewee concerns about potential repercussions resulting from what is divulged.

4.6.1 Sample selection and description

The retailer in this research study has a myriad of internal team members and external team members. There are many internal product categories and departments, each with specifically corresponding suppliers. In order to ensure that individual responses were anchored to assess the same leadership and relational quality, internal and external team members were selected from the same innovation clusters. The identification of appropriate innovation clusters was done in collaboration with the head of innovation of the retailer. An innovation cluster was selected from the pool of strategic suppliers to the retailer. A strategic supplier was defined as one that had supplied the retailer for at least three years. A supplier that had been supplying the retailer for three years or more would have experienced at least two annual rounds of new product development initiatives, which would provide sufficient interaction with team members across the retailer personnel base. The next step involved the identification of supplier team members, called external team members, that specifically collaborated with the retailer team members. In other words, the external team member interviewees were not selected as merely team members employed by the supplier, but were selected as those who had direct and regular contact with retailer team members. The final stage involving innovation cluster interview selection involved the identification of retailer team members with direct contact with supplier team members. This retailer outsourced some of the product development to an intermediate contracting organisation to fulfil some of the product development functions. Some of the individuals that were employed by this intermediate contractor were identified as suitable team members to interview. The intermediary organisation played a significant role in achieving product innovation performance. The intermediary team members were considered part of the retailer's team, where they worked from the same head office.

All internal, intermediary and external team member interviews were individually and personally introduced to this research study by the head of innovation of the retailer. The researcher was copied in on the introductory emails to potential interviewees. The personal introduction via email provided background information to the study, as well as a request for an interview. Initially, only five innovation clusters were selected and the intermediary team members were excluded from the study. The additional clusters were approached owing to an initial uncertainty as to whether a full complement of interviewees per cluster would be achieved. Interviewees were based in the Western Cape and Gauteng head offices, or in the case of suppliers, factories across South Africa.

The **internal team member interviews** (n=15) were identified to represent a variety of product food technologists, product developers and commercial managers, at various levels of seniority. Internal team member seniority ranged from junior new entrants to the business, to senior executives. Some of the more senior interviewees coincidentally had interaction with a few of the suppliers, while the more junior team members had interaction with only one or two suppliers. In the context of grocery retail, food technologists dealt with the “working cycle of recipes, the production practices, and the characteristics of the processing technologies” (Tufano et al., 2018, p. 78). In addition, food technologists were responsible for safe production systems, often accomplished via HACCPs methodology (Tufano et al., 2018). Product developers were tasked with the ideation component of an innovation or an upgrade to an existing product (Elg & Paavola, 2008). Commercial buyers were often responsible for the initial contracting of services from suppliers (Afif et al., 2020). The **intermediary team members** (n=6) were product developers and commercial managers from an outsourced company that fulfilled an exclusive function to the retailer, working with internal team members and suppliers on product development's design and commercial side. The **external team members** (n=19) were suppliers to the retailer and represented a spread of owners, food technologists, product developers and commercial managers. All the suppliers were involved in private label manufacturing with either the retailer brand or co-branded with the retailer and supplier brand - all of these were in the department of convenience food products. The suppliers ranged from highly innovative to a medium level of innovation prowess. All interviews utilised the full 60 minutes set aside, with the exception of three interviews where the interviewees had work interruptions, hence resulting in three shorter interviews. Table 17 itemises seven innovation clusters and the involvement of supplier teams, retailer teams and intermediary teams with these clusters.

Table 17

Outline of Interviews, Grouped According to Innovation Clusters, with Corresponding Internal, Intermediary and Supplier Team Member Interviewee Involvement

Innovation clusters	Interviewees			Total
	Supplier team (n=19)	Retailer team (n=15)	Intermediary team (n=6)	
Cluster 1	S1, S5, S16, S17	R1, R8, R11, R14, R15	I1, I3	11
Cluster 2	S2, S4	R6, R7, R8, R11, R12, R15	I1, I2, I3, I4	12
Cluster 3	S3	R8, R9, R10, R15	I1, I2, I4, I5	9
Cluster 4	S6, S7, S8, S9	R4, R5, R7, R11, R15	I1, I2, I4	12
Cluster 5	S10, S11, S12, S13, S14	R2, R3, R7, R11, R15	I1, I2, I4	13
Cluster 6	S15, S19	R1, R2, R3, R4, R5, R12, R11, R13	I1, I2, I4, I6	14
Cluster 7	S18	R3, R9, R11, R12, R15	I1, I2, I3, I4	10

In Table 17, the letter 'S' denotes 'supplier' team member, 'R' denotes 'retailer' team member, and 'I' denotes the 'intermediary' team member. The number following the letter is in reference to the order in which the interview was conducted. Each innovation cluster in Table 17 contains at least one supplier participant and between nine and 14 internal or intermediary team member interviewees. Each innovation cluster included at least nine interviews, spread between internal, intermediary and supplier team members, therefore providing several perspectives and contributions to the data set.

In order to triangulate the quantitative and qualitative data findings, 20 interviews were conducted with innovation experts (n=20). These experts were selected on the basis of their innovation-leadership reputation; their understanding of relational dynamics involving innovation; and their internal and external relationship management in the South African retail landscape. The introductions to these experts were gleaned from the researcher's network as a practitioner in this field. The selection criteria of these experts required that each fulfil all four of the following aspects:

- Experience in involvement of innovation process
- Experience in the grocery retail industry
- Experience in retailer-supplier relations
- A minimum of 10 years of experience in the three aspects above

These experts are generally well-established and free of concern over anonymity (some to a larger extent than others). The lack of concern for any form of repercussion owing to divulging sensitive information was apparent from the start. Information sharing was high. The main purpose of these interviews was to triangulate the quantitative and qualitative data. The relevance of knowledge or

expertise of each interviewee is outlined in Table 18, according to international, South African and the study's retailer's context.

Table 18

Tabular Outline of Innovation Expert Interviewees, with Specific Reference to Their Expertise

Innovation experts	Innovation knowledge breadth		
	International retail landscape	South African retail landscape	This study's retailer
IE1	X		
IE2		X	X
IE3	X	X	X
IE4		X	
IE5	X	X	X
IE6		X	X
IE7	X	X	X
IE8		X	X
IE9	X		
IE10		X	X
IE11	X	X	
IE12		X	
IE13		X	X
IE14	X	X	X
IE15		X	
IE16	X	X	
IE17	X	X	X
IE18	X	X	
IE19	X	X	
IE20	X	X	X
Total	12	18	11

As displayed in Table 18, 18 out of the 20 interviewees provided an expert perspective on the South African retail landscape. Eleven interviewees had knowledge about this research study's retailer; however, none of the interviewees had had exclusive interactions with the retailer. Two of the interviewees were international innovation experts, with a particular expertise in the leadership and relationships pertaining to innovation performance. Seven of the interviewees knew all three landscapes well: international, South African and the specific retailer.

4.6.2 Interview method

The aim of this research study was to observe the depths and intricacies of leadership and relationships and how they pertain to innovation performance. The prospective interviewees were all knowledge workers that were active practitioners involved in aspects of product innovation, and therefore these individuals were able to contribute relevant perspectives to the data. According to Thompson and Walker (1998, p. 65), qualitative research is appropriate in answering questions such as “What is going on here? How can I explain it?”, specifically where a greater depth of interpretation is a valid contribution. According to Fassinger (2005), the techniques for appropriate execution of a qualitative research interview are considered sparse in the literature. The interviewer-participant relationship is relevant as it affects the level of disclosure and the depth of sharing information (Knox & Burkard, 2009). According to the guidelines by Sant (2019), the interview-based data data-gathering phase should be conducted with the awareness that own biases and assumptions require management to ensure that the voices of the participants are accurately recorded. According to Knox and Burkard (2009), the researcher’s own beliefs have considerable implications for the interview structure - both in the acquisition and interpretation of the data. Kvale (1983) elevated the importance of approaching interviews with a seriousness and rigour to ensure that results are non-trivial and as objective as possible. Objectivity is often described by its binary opposite, namely subjectivity; however, Kvale (1983) described objectivity in terms of bias-free, reliable, checked, controlled, undistorted, neutral, factual and confirmable knowledge. The accumulation of interview data is ideally useful when grouped into themes that “communicate the essence of the experience” (Thompson & Walker, 1998, p. 67).

4.6.3 Interview schedule: formulation and administration

In order to approach the interviews with as much rigour as possible, without deterring information-sharing depth (Knox & Burkard, 2009; Kvale, 1983), semi-structured interviews were conducted. According to Newman et al. (1998, p. 67), a “structured interview is designed to collect the same data from each participant”. Abraham et al. (2021) described a semi-structured interview as having strictly specified questions. The same questions were posed to all the interviewees in the same cohort (internal team members, intermediary team members, external team members, and innovation experts); however, the questions followed a conversational style, with appropriate follow-up questions. The interview schedule was anchored on 6-8 primary questions, each designed with the objective of being: (1) inviting and with the aim to obtain the interviewee’s perspective; (2) accessible and familiar in respect of language; and (3) able to be analysed in relation to the research questions (Abraham et al., 2021). In line with these guidelines, to ensure trustworthiness of the process and

data, each question stemmed from the literature review on innovation, leadership, and relational strength, with recognition of the grocery retail environment as the context. The interview questions were aligned with the objectives of the study, to prioritise leadership, relational strength, and how these relate with innovation performance. The final interview schedules are exhibited in and Appendix C.

The **internal team member interview schedule** comprised three parts: (1) the leadership and relationships from an internal team perspective; (2) supplier relationship aspects; and (3) innovation and knowledge sharing. The **intermediary service provider interviews** followed the same structure as the internal team interviews, since the former mentioned participants operated solely as representatives of the retail organisation, and would therefore answer questions in the same way that internal team members would answer. The first part of the interview schedule that pertained to leadership and relationships specifically probed aspects regarding quality of interaction between leaders and followers. The follow-up questions focused on aspects of received support in the form of a vision and strategy; the manner in which innovative contributions were received; aspects of collaboration with other departments; and ideal attributes of self-led innovative team members. The second part of the interview focused on how the leadership and relationship component translated into achieving innovation through process and knowledge sharing. The final section of the internal team interviews focused on internal relational dynamics to enable innovation success, namely knowledge sharing, relational quality, and leader support).

The **supplier interview schedule** is loosely divided into two sections: (1) leadership and relationship; and (2) innovation process and knowledge. The supplier interviews commenced with an ice-breaker-style question, in line with the Abraham et al. (2021) guideline to establish a rapport and to create a sense of ease among the respective interviewees. The first question probed the length of supply to the retailer and a reflection on when the relationship started. The questions anchored on matters of relationship as informed by the literature, for example trust, security, power-balance, mentorship, exchange, specific relationship within the organisation, and experience of leadership. The second part of the interview focused on how the leadership and relationship component translated into achieving innovation through process and knowledge sharing. In this section, owing to a focus on the procedures involved (whether tacit or explicit), aspects of potential relational asymmetry could have emerged. The second section of the schedule was less subjective, for example: 'Elaborate on the information or knowledge that is exchanged: from your side, as well as from the retailer's side'.

The interview schedule with the **industry experts** also followed three components, namely: (1) internal leadership and relationships; (2) supplier leadership and relationships; and (3) innovation

processes and knowledge sharing. The first component probed how to lead the innovation; the relational components that enabled innovation success; and team member behaviours that contributed to innovation performance. The second section enquired about supplier status balance; supplier innovation leadership qualities; and risk management. The final part of the innovation expert interviews were anchored on aspects of open innovation; symmetrical upside to pursuing strategic open innovation relationships; and knowledge-sharing strategies for internal and external teams.

According to Mishler (1986, p. 123), the role of the interviewer is to reduce any presence of power asymmetry, so that interviewees can act as “informant” or “competent observer”, and the interviewer to assume the role of “reporter”. According to Koch et al. (2018), the interviewee should not hold any preconceived opinions while embarking on the interview process. The quantitative data analysis was conducted after all interviews were completed to ensure that the quantitative findings did not influence interviews or create a bias. Mishler (1986) suggested that the interviewee responses should inform the evolving conversation, with appropriate follow-up questions where necessary for greater context. During the interview process, there was a strong orientation to return to the interview schedule to avoid interviewees wandering too far from the theme and purpose of the interview. In line with Abraham et al. (2021), timekeeping was maintained to ensure that there was sufficient time to work through all questions. This required focus to steer conversation back in the event of interviewee ‘rabbit trailing’ or conversing too far off the purview of this study. Discernment was required to ascertain information that was interesting but no longer in the territory of the research. The following guidelines influenced each interview (Maufefette-Leenders et al., 1999): (1) full attention to the interviewee; (2) attentive listening; and (3) confidentiality. Confidentiality was communicated with a comprehensive consent form, pre-supplied to interviewees. Since the level of transparency was in the ideal interest of the study, any concern regarding confidentiality was managed throughout all the interviews.

4.6.4 Primary qualitative data analysis and interpretation

This research study conducted computer-aided thematic content analysis (TCA) with ATLAS.ti, which included open coding, then axial coding, and then subtheme identification or grouping within the boundaries of the research topic (Friese et al., 2018). The ATLAS.ti-software is compatible with multiple data analysis processes in qualitative research (Friese et al., 2018). All transcribed interviews were imported with a code name unique to each primary source document, which in turn referred to the corresponding data set or hermeneutic unit; these separate document categories were nestled in one larger project. Thematic content analysis enables the development of a “coding scheme” with the identification and grouping of themes and subthemes according to the theoretical framework and

relevance to the research topic (Abitan & Krauth-Gruber, 2015, p. 478). MacNeil and Brcic (2017) confirmed the advantages of thematic content analysis to be rooted in the identification of major themes, with the ability to extract data within these boundary lines.

In order to analyse the qualitative data in a trustworthy manner, the prescribed guidelines by Easterby-Smith et al. (2002) were followed. The following steps were taken:

- Familiarisation: The data transcriptions were read a few times in order to process the interview details and establish relationships, attitudes and confidence surrounding the interview process and its components.
- Reflection: An evaluation and sensemaking of all the information presented was conducted.
- Conceptualisation: Greater awareness of noteworthy concepts were created.
- Cataloguing concepts: Once the concepts were established, they were coded or labelled.
- Re-coding: Codes were re-checked against original data.
- Linking: Patterns from literature were linked with gathered data.
- Re-evaluation: A critical evaluation of the analysis was done to see whether re-work had to be performed, or whether the level of focus and emphasis on certain concepts had to be adjusted.

In addition, and in line with the summary by Koch et al. (2018), the following steps were followed in the analysis and interpretation:

- Open coding involving the identification of statements relating to the research topic
- Grouping into meaningful dimensions, also known as axial coding
- Comparing perspectives within the hermeneutic unit
- Concluding with key themes or code families

According to Koch et al. (2018), axial coding allows a comparison-of-perspectives component to be followed, and then enables the construction of code families or key themes and subthemes. In line with Friese et al. (2018), broader themes were derived from the conceptual model, which in turn were derived from theory. Open coding focused on the purview as delineated by the research topic.

To ensure that pre-existing results from the quantitative analyses and data from semi-structured interviews did not interfere with the coding process, each transcribed interview was processed in an open-coded fashion, while remaining within the scope of the research questions, namely leadership, relationships, perception of innovativeness, and product innovation performance. The first level or stage of analysis was to conduct open coding. Open coding enabled small data sections to be considered in detail and compared with other data sections (Lewis, 2016). Open coding also enabled

the research to focus on the data prior to drawing any conclusions. Once the open-coding phase was completed, the code swamp (Friese, 2019) was simplified by merging the same or very similar concepts, improving language, paraphrasing, and elaborating the notes linked to codes. Once the initial first-level coding process was complete, code categories were created and the assigned open codes were grouped accordingly. Within these axial codes, further subgroupings continued. Network diagrams and co-occurrence tables (Friese, 2019) also followed. Stemler (2000) defined a priori coding as pre-established categories prior to the analysis. In the case of this research study, the main research questions provided these code category parameters. The constructs and relationships between the constructs in the conceptual model provided overarching a priori themes, with colour coding indicated in Table 19.

Table 19

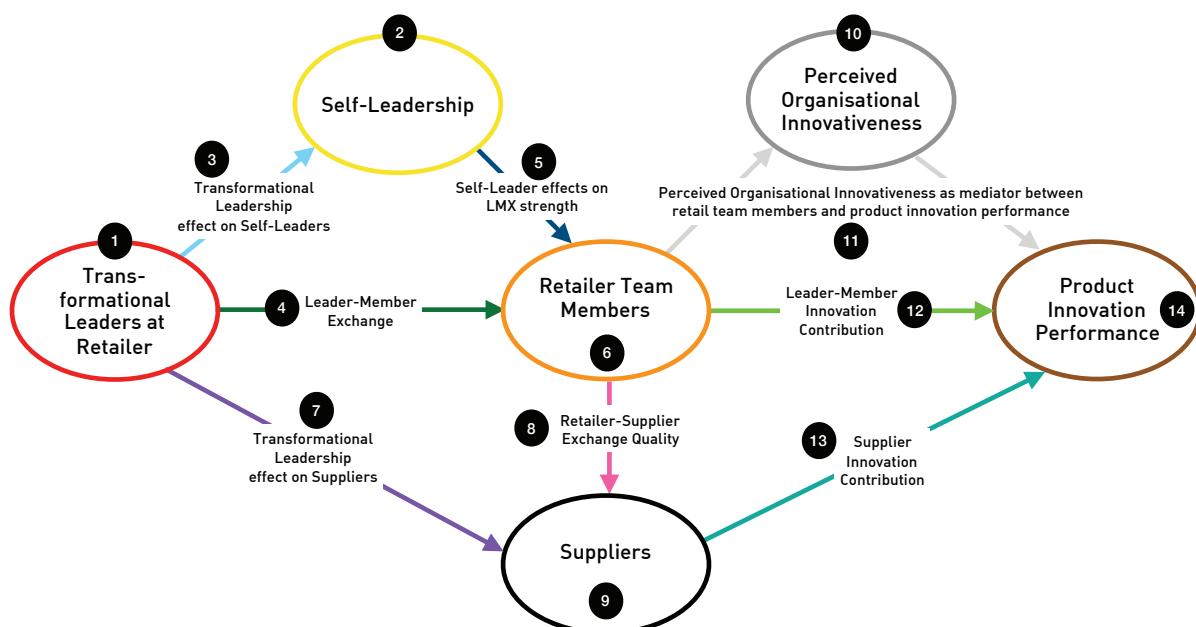
Main a Priori Themes, with Abbreviations as Code-Prefixes, Data Component Relevance and Assigned Colour coding

Main themes across all data sets				
Number	Element from conceptual model	Abbreviation as code prefix		Colour code
1	Transformational leaders	TL	●	Red
2	Self-leadership	SL	●	Yellow
3	Transformational leadership linked to self-leadership	TL->SL	●	Light blue
4	Leader exchange quality (leader perspective)	TL->LMX	●	Dark green
5	Self-leadership as a mediator between transformational leadership and LMX	SL->LMX	●	Dark blue
6	Internal member exchange quality (follower perspective)	LMX	●	Orange
7	Transformational leadership linked to retailer-supplier exchange	TL->RSX	●	Purple
8	Retailer-supplier exchange quality (retailer perspective)	LMX->RSX	●	Pink
9	Retailer-supplier exchange quality (supplier perspective)	RSX	●	Black
10	Perceived organisational innovativeness	PORGI	●	Dark grey
11	Perceived organisational innovativeness as mediator between LMX and PIP	LMX->PORGI->PIP	●	Grey
12	Leader-member exchange linked to product innovation performance	LMX->PIP	●	Light green
13	Retailer-supplier exchange linked to product innovation performance	RSX->PIP	●	Turquoise
14	Product innovation performance	PIP	●	Dark brown

In Table 19, the simplified code prefixes were created to anchor each individual quotation with a colour code, which enabled efficient grouping, as well as ensured that the conceptual model created a constant check-and-balance in order not to veer off the intended research topic. Colour coded labels were utilised in ATLAS.ti software to enable the appropriate labelling of open codes that were linked to the key constructs of the conceptual model. In order to maintain consistent coding prefixes, Table 19 also itemised each conceptual element, with the abbreviation and corresponding colour code. Figure 22 corresponds with Table 19 and anchors the constructs of the research to colours.

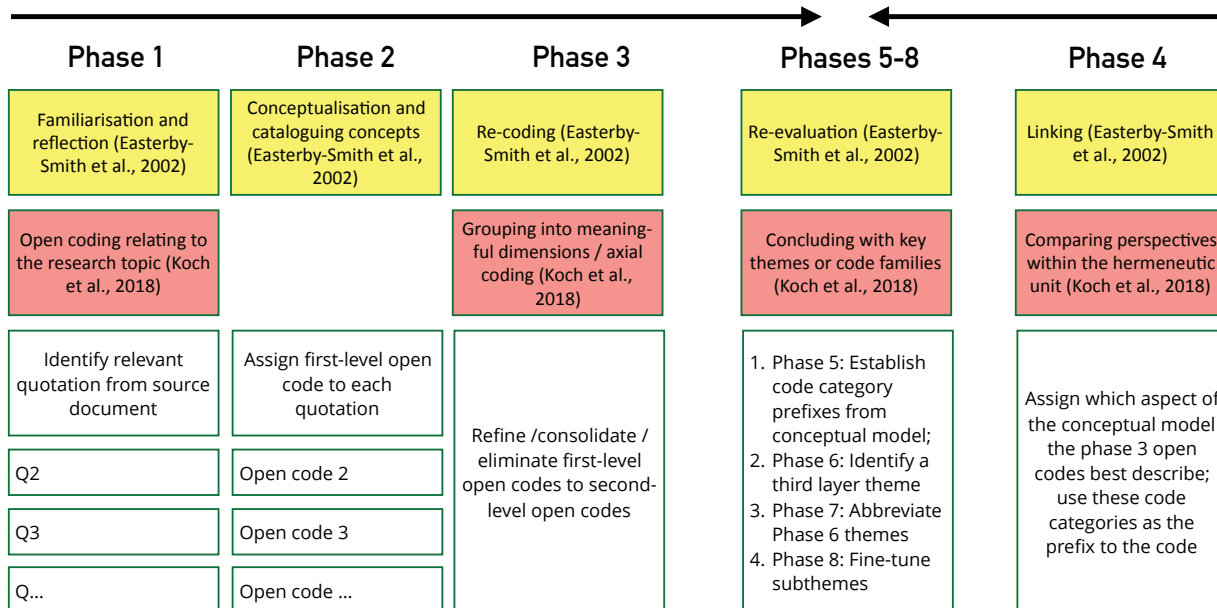
Figure 22

Adapted Conceptual Model for Basic Thematic Sorting



The colour-coded conceptual model, as presented in Figure 22, was kept visible during the coding process. The numbers corresponded with the abbreviated coding prefixes in the third column of Table 19. These colour codes, combined with abbreviated prefixes that corresponded with constructs and relationships between constructs, ensured an efficient and accurate open-coding system. Utilising colour coding as an organising mechanism ensured that each quotation could be linked to the construct to which it most appropriately belonged. For example, during the analysis of supplier interviews, if an excerpt mentioned the aspect of leadership, a purple colour was chosen to represent this open code, since this particular example pertained to the link between transformational leaders and suppliers. Once open codes were assigned to quotations from primary source documents, several steps ensued in order to make sense of the swamp of data (Frieze, 2019). The process of analysis is outlined in Figure 23.

Figure 23
Coding Sequence of Phases to Achieve Data Refinement



Note. A consolidation of the guidelines by Easterby-Smith et al. (2002) and Koch et al. (2018).

The process followed, in terms of coherently organising all the quotations from start to completion, is outlined in Figure 23. The process started with an entirely open approach of identifying relevant quotes from the source documents (phase 1); that were labelled (phase 2); refined (phase 3); measured in the context of the conceptual model (phase 4); and then refined further (phase 5). Subsequent to phase 5 further phases of refinement may have been necessary in order to refine the code to be as succinct and accurate as possible. An example of the above sequence is shown Table 20.

Table 20
An Example of Coding Sequence of Phases with an Example from This Research Study

Phase	Action	Example
Phase 1	Identify relevant quotation from source document	<i>“When I say we, the technical team went and assisted them to put the processes in place to, you know, help them set up the line together with their R&D and factory or production managers to get to a point where we went through many, many trials of trying to get it right” (Participant 16)</i>
Phase 2	Assign <i>first-level open code</i> to particular quotation	<i>“supplier team is under-resourced, adding strain to retailer relationship”</i>
Phase 3	Refine/consolidate/eliminate to achieve <i>second-level open code</i>	<i>“problematic under-resourced supplier”</i>

Phase	Action	Example
Phase 4	Assign <i>code category</i> informed by aspect of conceptual model	“LMX->RSX”
Phase 5	Retain <i>code category</i> prefix from conceptual model while further refining <i>second-level open code</i> descriptor	“LMX->RSX” and “problematic under-resourced supplier”
Phase 6	Review all Phase 5 quotes and group to achieve a third layer <i>initial thematic grouping</i> to cohere all similar <i>second-level open codes</i> from Phase 3	“COLLABORATION”
Phase 7	Additional abbreviation, combining and refining	“LMX->RSX: COLLAB_ problematic under-resourced supplier”
Phase 8	Fine-tuned thematic grouping with subthemes	

Table 20 provides the basic sequence of how the coding process occurred for the three data subsets; namely internal team members, external team members; and innovation experts. By approaching a specific quotation with a blank slate (phase 1), labelling (phase 2), ensuring coherence and appropriateness (phase 3), and then essentially pausing this direction of uncluttering. Each quotation and its refined labels were then matched with the conceptual model’s essential elements (phase 4), which essentially met this code from an opposite direction. Further refining then occurred in additional phases in order to group towards codes.

4.6.5 Strategies to enhance qualitative data trustworthiness

According to Pratt (2009), qualitative data did not have universally acknowledged significance guidelines with the purpose of confirming a component of data as statistically significant. Embarking on a qualitative research process generally involved “enormous amounts of primary verbal data”, thereby disabling large sample sizes from being achieved (Thompson & Walker, 1998, p. 66). The unique features of quantitative work could often also be detrimental. The uniqueness of unlimited spoken or written language remained subject to the researcher’s prowess to interpret and code the data with accuracy (Sant, 2019). Miles and Huberman (1994) recommended three activity streams to enable thorough qualitative analysis, namely: (1) data reduction; (2) data display; and (3) conclusion and verification. The data reduction phase was mainly a grouping and organising phase, where themes and subthemes were identified. Subthemes may even have had further nuances to create a distinction within this subgroup. The sub-subgroups were reconciled with other sub-subthemes at a later stage (per Thompson & Walker, 1998). The ATLAS.ti software assisted in organising the themes and subthemes and sub-subthemes of data through colour coded labels and descriptors, with prefixes assigned to the constructs and relationships between constructs. Data display involved depicting the

initial data utilising a chart or diagram (Miles & Huberman, 1994). Since the qualitative data analysis was conducted along pre-established a priori codes, the data could have been displayed on the conceptual model. The third phase involving conclusion drawing and verification was a critical phase involving the revisit of the interview data to ensure that the researcher had not built a biased viewpoint from the outset, which ensured that the findings were constantly reverted to the source information (Miles & Huberman, 1994; Thompson & Walker, 1998). In order to ensure that this phase was achieved, phases one and two in Figure 23 and Table 20 were conducted in a manner devoid of conclusion. Specifically, phases one and two were completed for all the interviews prior to progressing to phases three, four and five in Table 20.

Rigour assessment in qualitative research is done by pursuing the following four factors (Thompson & Walker, 1998, consolidating and citing Lincoln & Guba, 1985 and Jenny & Logan, 1994):

1. **Trustworthiness:** The so-called 'truth value' of a study depends on whether others have experienced the study in a similar manner, and/or when other researchers concur with the findings. The factor of trustworthiness was pursued through the completion of phases four and five in Table 20, specifically linking open codes to the conceptual model of the study.
2. **Transferability:** This occurs when the findings are beyond the intricacies of the particular study. In order to ensure that the qualitative findings were applicable to a broader context, the analysis included references from the literature.
3. **Dependability or consistency:** The ability to track variance over a period of time through an independent researcher doing a 'decision trail' - for example, two researchers coding the same data. Sant (2019) elevated the importance of an 'audit trail' to enable replicability having the same outcome. The qualitative analysis was completed with versions of work documented in distinct digital files, available in separate units, in order to aid as a reference at any point. For example, phases one and two in Table 20 involved the labelling and assigning of codes in a descriptive fashion, and this stage was saved in a first version. Phase three involved refining, and prior to commencement with phase three analysis, a new version was saved.
4. **Confirmability:** This enables the evaluation of neutrality. The researcher is closely connected to the research and therefore not purely objective. Confirmability occurs when an independent party can verify the findings. The confirmation phase of the research was conducted in the final examination.

4.7 PILOTING

The piloting phase of research is considered paramount in ensuring that all aspects have undergone real-life testing. Piloting of both qualitative and quantitative data gathering should be done regardless

of whether questions or instruments are newly developed or not (Mouton, 2001). Piloting allows for errors to be identified and changes to be made prior to launching instruments or commencing with interviews with the identified sample groups (Utts & Heckard, 2007). In order to pilot the quantitative survey instruments, the electronic version of the survey instruments was sent to nine colleagues, independent of the research sample, to complete and give feedback. The feedback that was received was limited to a few spelling mistakes. Since the instruments were existing measurement tools, each with psychometric assessments and prior deployment to measure each concept, a single piloting phase was deemed acceptable. The qualitative interview schedule was first proofread by a colleague, also independent of the research sample, for feedback on clarity. A few minor changes were made to the questions in order to improve the language and to remove ambiguity. A corrected version was then presented in the form of a formal simulated interview to a second colleague, also independent of the research sample. The 60-minute allotted timeslot was deemed sufficient to answer all the interview questions. None of the questions were perceived as ambiguous during the second pilot round.

4.8 SUMMARY

In Chapter 4 the research methodology was presented according to quantitative and qualitative phases and essential components. Chapter 5 outlined the quantitative research results and findings. First, each quantitative research instrument and the general findings were presented. The second phase was to position each instrument along the structural equation conceptual model with the assessment of the outermodel. The third phase was to report on the innermodel reliability, and the final phase entailed a summary of the quantitative analysis.

CHAPTER 5: QUANTITATIVE RESEARCH RESULTS AND FINDINGS

The next two chapters outline the research results. Chapter 5 focuses on the quantitative results of the research, while Chapter 6: focuses on qualitative findings.

5.1 SAMPLE DESCRIPTION

The survey instruments were distributed among two sample groups. The first group comprised internal team members and entailed a longer survey. The second group comprised external team members who were suppliers to the internal team members.

5.1.1 Internal team respondents

The internal team survey instruments were completed without revealing the name of the respondents to ensure items could be answered with the highest level of transparency. The instruments collectively included 88 items, excluding items pertaining to biographical details. In order to ensure the highest response rate, the aim was to keep the number of items as low as possible and therefore the biographical items were kept to a minimum. The biographical items focused on level of involvement in product innovation performance, respondent age, incumbency in current position, and length of service at the organisation. The item pertaining to direct involvement with innovation performance provided further insights regarding items of innovativeness. Product developers were directly involved in the creation of products, involving a close collaboration with suppliers. The personnel that were indirectly involved with product innovation performance included the commercial buyers, food technologists and marketing team members. Figure 24 depicts the biographical items focused on level of involvement in product innovation performance.

Figure 24

Direct Involvement in Product Innovation by Respondents (n=222)

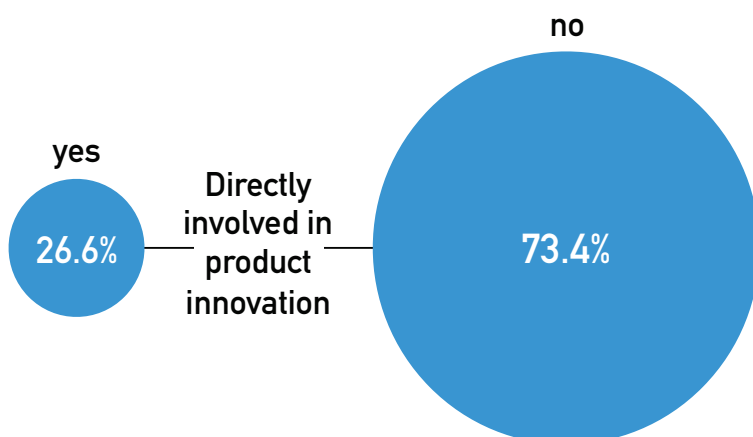


Figure 24 indicates that the vast majority of respondents were indirectly involved in product innovation performance. This majority cohort included the commercial buyers and food technologists. While these team members may not have been thoroughly involved in the physical development of new products, their involvement included, among other things, the commercial pricing strategies and the product ingredient analysis. The supportive contributions played an essential role in completing the product innovation process. The minority cohort was directly involved in product innovation, very close specifically to the ideation stage of product innovations. All respondents were involved in collaborating with suppliers, although the minority cohort of product developers were supplier-facing to a greater degree. Both direct and indirect involvement in product innovation therefore contributed to relevance of the respondent answers. Figure 25 depicts the biographical items focused on respondent age.

Figure 25

Age Bracket Distribution Among Respondents (n=222)

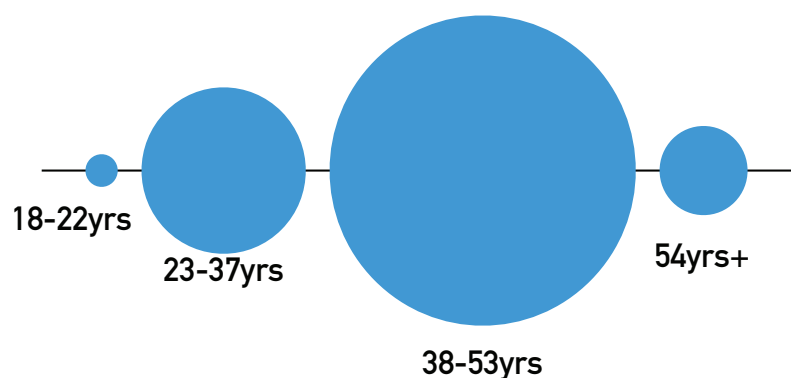


Figure 25 indicates that the predominant generational groups among the 222 respondents were Generation X at 52.2%, Generation Y at 27.9%, with Baby Boomers at 14.2% and Generation Z at 5.5% (Anderson & Jiang, 2018). Age groups provided information regarding how long respondents may have been in the workforce. Therefore, age was linked to experience with either direct product development or indirect product development. The largest cohort of respondents were between 38 and 53 years of age, with an assumption of between 10 and 30 years of work experience in either this industry and/or in specific proximity to some form of product innovation performance. The majority of respondents therefore had at least a decade of working with leaders, acting as leaders, and collaborating with suppliers. The respondents therefore contributed to the data set with relevant experience in product innovation performance. Figure 26 depicts the biographical items focused on duration in the current position.

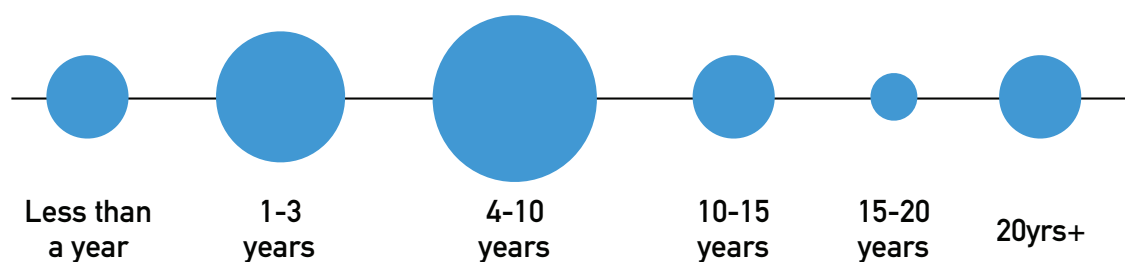
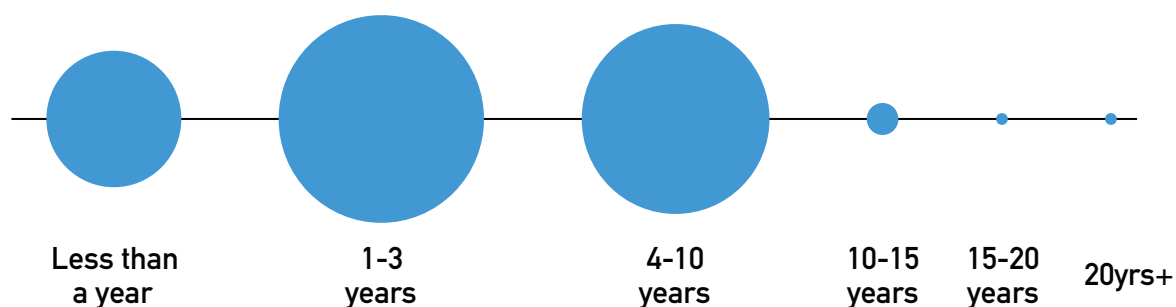
Figure 26*The Distribution of Respondents' Length of Service to the Organisation (n=222)*

Figure 26 indicates that the respondents represented 13.8% in newcomers, 22.2% in the organisation's employ for below three years, and 63.9% of the respondents at the organisation for four years or longer. This provides a picture of how long employees were in the organisation, influenced by this particular organisation's company culture and modus operandi. The largest sub-group were with the organisation for between four to 10 years (27.7%), with 48 of the respondents in the organisation's employ for more than two decades. The length of service to this organisation represented a fair number of new entrants with 125 individuals in employment for less than three years. The distribution therefore indicated a predominant number of employees that were accustomed to the status quo. Figure 27 depicts the biographical items focused on length of service at the organisation.

Figure 27*The Distribution of Respondent Length of Service in Current Position (n=222)*

From the data on movement within the organisation, depicted in Figure 27, 58% of the individuals changed their roles in the previous three years. From this data, an assumption could be made that there was a fair amount of movement, as well as potential promotion occurring within the organisation. The movement of human capital throughout the organisation may have indicated that knowledge became blended throughout the organisation. Forty-eight employees had been in their roles for a decade or longer, which indicated the presence of an established knowledge constantly blending with new knowledge throughout the organisation. The internal team respondents responded to items pertaining to leadership and relationships, and how these aspects affected product

innovation performance. The blending of knowledge was at the core of innovation performance (Howell et al., 2005), and required leadership to optimise the blending of knowledge to achieve innovation strategy (Prange & Schlegelmilch, 2010).

The biographical data confirmed that individuals were close to the innovation process, whether that was directly or indirectly. The diverse spread in: (1) roles; (2) age groups; (3) duration of employment; and (4) duration in role ensured that multiple perspectives converged to enable product innovation performance.

5.1.2 External team respondents

The external team survey instrument was applied on an anonymous basis to encourage respondents to respond on the highest level of transparency, and included seven items, excluding items pertaining to biographical details. The biographical items focused on duration of supply to the retailer (Figure 28), and permanence of supply (Figure 29).

Figure 28

The Duration of Supply to the Retailer (n=65)

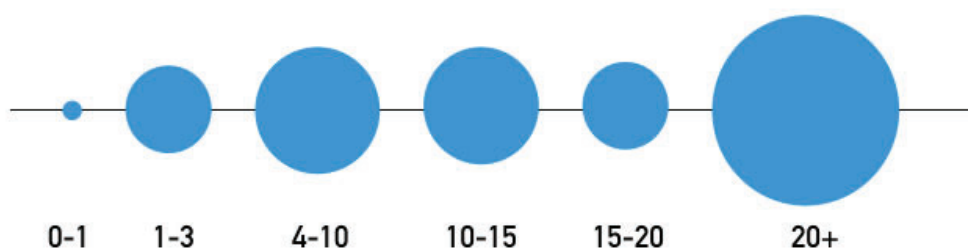
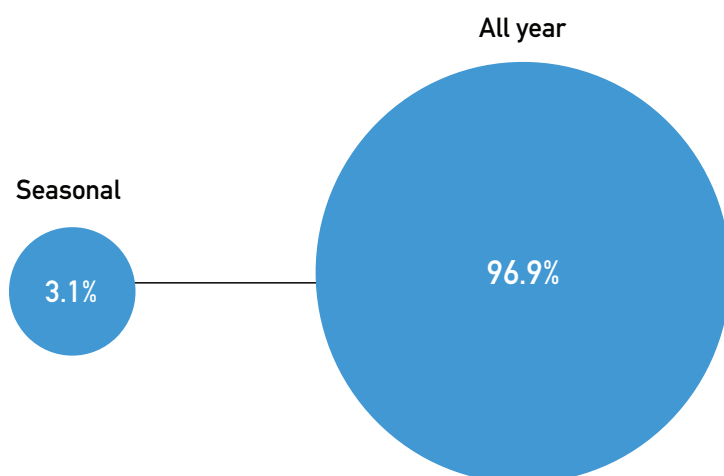


Figure 28 indicates that the external team respondent data indicated commitment to supply to the retailer with over 80% exhibiting in excess of four years of supply. This long-term commitment indicated that the majority of respondents could reflect on aspects of quality of retailer-supplier relationship with history and perspective. Since most supplier-respondents had been in a commercial relationship with the retailer for at least four years, the assumption was made that there was commercial viability.

Figure 29

The Distribution of All-Year Versus Seasonal Supply to the Retailer (n=65)



In terms of frequency of supply, the predominant external team respondent data confirmed that most of these suppliers were all-year suppliers, as indicated in Figure 29. The permanence of supply indicated regular contact throughout the year, which ensured that the data reflected the variety of relational interactions throughout the year.

The external team respondent biographical data indicated reliability in the form of long service and continuous supply. The data therefore represented respondent perspective, provided by regular opportunities for relational interaction with a variety of internal team members.

5.2 DESCRIPTIVE STATISTICS

The quantitative collection of instruments was presented in an emailed *Survey Monkey* link to two respondent groups, namely: (1) internal team members; and (2) external supplier team members. The population of internal team members, according to the human resources director for the organisation, totalled 2 154 team members. The exclusive suppliers that were approached to achieve the external team supplier respondents, totalled 149 respondents. Table 21 itemises the approached population and corresponding response rates.

Table 21

Survey Instrument Response Rates

Data groups	Survey instruments		
	Sent out	Returned	Percentage
Internal team	2 154	222	10.3%
External team	149	65	43.6%

The quantitative research instruments were distributed to the whole internal team head office population and 363 initial responses were received, some of which were incomplete. Most respondents completed many of the 88 items; however, some respondents abandoned the questionnaire at some point. Many of the abandonments occurred in the middle of a section of items, which could be due to interruption, fatigue or other reasons. A total of 222 respondents completed the entire questionnaire with all of its subcomponents. The total population of the external team respondents were recorded as 149 strategic suppliers, all of whom were included in the instrument distribution. Sixty-five complete responses were received from the external team cohort.

The internal team members completed 88 items that covered six instruments, as outlined in Table 22.

Table 22

Individual Constructs, Subject of Assessment and Total Responses Achieved Among Internal Team Member Respondents

Instrument name	Construct	Assessment subject	Total responses
Transformational leadership inventory (TLI)	Transformational leadership	Internal team members assessing transformational behaviour in the leader(s) to whom they report	272
Abbreviated self-leadership questionnaire (ASLQ)	Self-leadership	Internal team members assessing their own self-leadership behaviours	282
Leader-member exchange (LMX)	Internal team leader-member exchange quality	Internal team members assessing the relational quality between each individual and their direct leader	310
Retailer-supplier exchange (RSX)	Exchange quality between internal team members (retailer) and external team members (suppliers)	Internal team members assessing the relational quality of the organisation with their strategic suppliers	222
Perceived organisational innovativeness questionnaire (PORGI)	Perception of organisational innovativeness	Internal team member assessment of their perception of the organisation's innovativeness	316
Product innovation performance questionnaire (PIP)	Product innovation performance	Internal team member assessment of product innovation performance	222

There were 222 respondents who completed every item of every instrument that collectively formed the quantitative survey items. For the sake of the PLS-SEM data analysis approach, the common

denominator of fully completed response-sets should, and were used, namely 222 responses, as confirmed by Table 22.”

The external team members completed seven items that specifically report on the supplier respondent’s perspective on the relational quality with the retailer, as per Table 23.

Table 23

Individual Construct and Subject of Assessment Among External Team Supplier Respondents

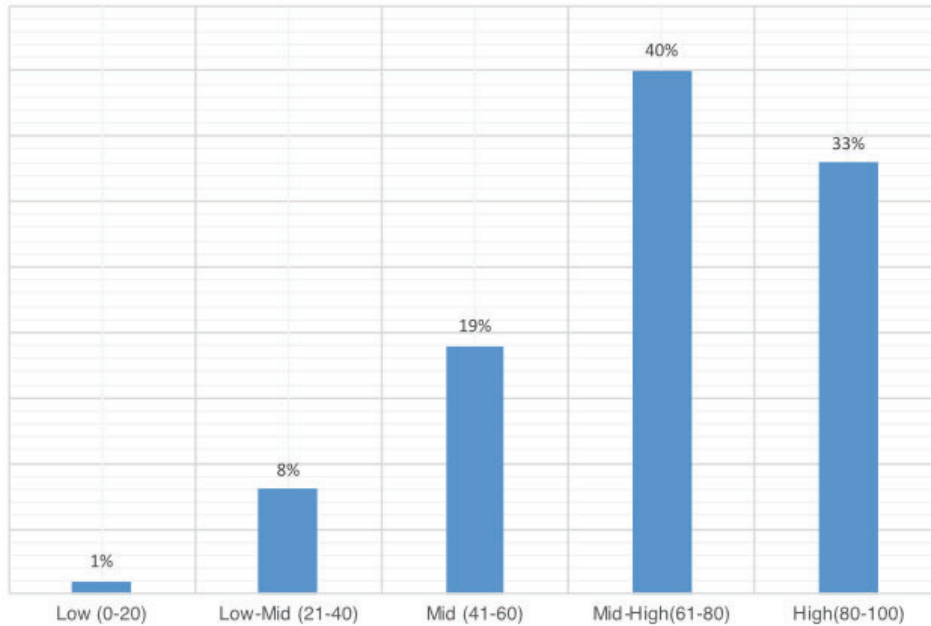
Instrument name	Construct	Assessment subject	Total responses
Retailer-supplier exchange (RSX)	Exchange quality between internal team members (retailer) and external team members (suppliers)	External team members (strategic suppliers) assessing their relational quality with the organisation	65

The high response rate by the external team cohort could be the result of the concise length of the questionnaire, which only required a response to eleven items.

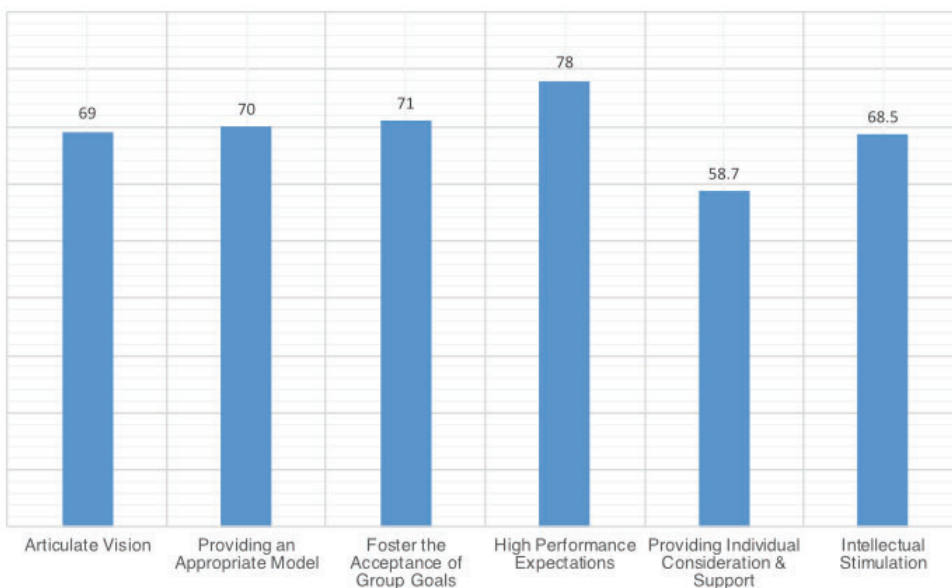
Prior to starting with SEM analysis, each individual construct was presented with elemental descriptive findings, conducted with SPSS software. While the objective of this study was to analyse the relationships between the concepts or traits, the respective findings were presented as part of the descriptive statistics. The presentation of reliability of each construct related more to the direct purpose of this study, namely how each concept related to the other.

5.2.1 Transformational leadership inventory (TLI)

Figure 30 and Figure 31 demonstrate the responses on the transformational leadership inventory (TLI) overall and its dimensions.

Figure 30*Transformational Leadership Inventory (TLI) Overall Assessment (n=272)*

In Figure 30, 773% of the respondents rated the level of transformational leadership to be mid-high (40%) to high (33%), with a small percentage considering transformational leadership to be low (1%) or low-mid (8%). The respondents assessed their leaders to be more transformational than not.

Figure 31*Transformational Leadership Inventory (TLI) Reported per Dimension (n=272)*

In Figure 31, four of the six dimensions showed a similar score of between 68.5 to 71, with a high score of 78 for high-performance expectations, and a low score of 58.7 on the construct providing individual

consideration and support. Individualised consideration was considered one of the foundations of transformational leadership theory (Bass, 1985). The theory contributions by Conger and Kanungo (1994) developed this dimension further to include a 'sensitivity to the needs of followers', and Podsakoff et al. (1990) expanded this dimension to include 'individualised support and recognition of accomplishments'. According to Sheehan et al. (2020), the link between transformational leaders and organisational innovation was not generalisable or applicable across the board. In other words, the individual dimensions of transformational leadership therefore contributed to innovation outcomes. Furthermore, established empirical positive links between individual innovation performance and robust individual consideration existed (Sheehan et al., 2020). The relatively lower score in Figure 31 of individual consideration and support therefore had bearing on the final outcomes of this research.

5.2.2 Abbreviated self-leadership questionnaire (ASLQ)

The ASLQ was answered by 282 respondents and their responses are depicted in Figure 32.

Figure 32

Abbreviated Self-Leadership Questionnaire (ASLQ) Responses (n=282)

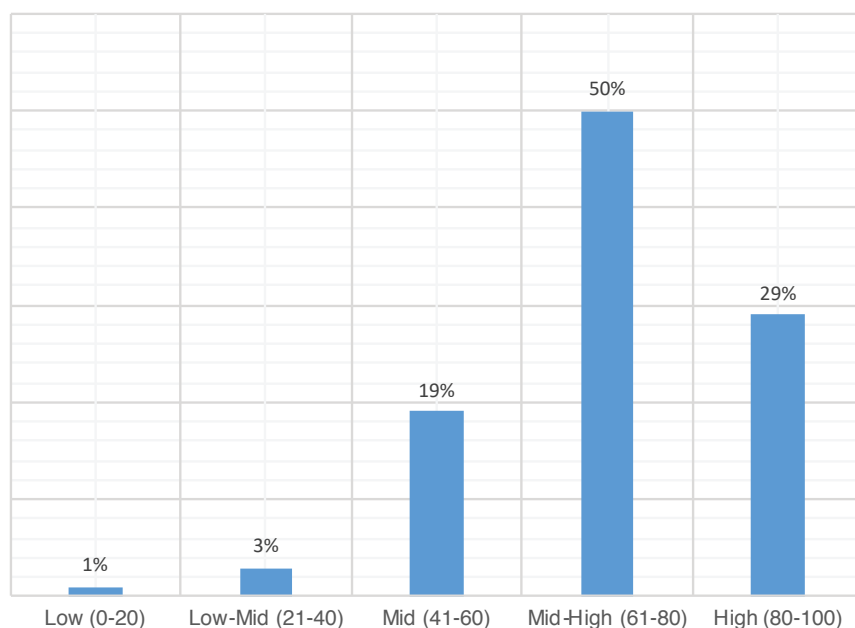


Figure 32 illustrates the outcome of 79% of these respondents self-assessing their level of self-leadership at mid-high (50%) or high (29%). Twelve respondents self-assessed as low or low to medium in terms of their own self-leadership behaviours. Fifty-four of the respondents rated their self-leadership behaviours as 'neither accurate nor inaccurate', therefore a neutral response. Predominantly, respondents assessed themselves as 'mostly' or 'completely' in line with the items in

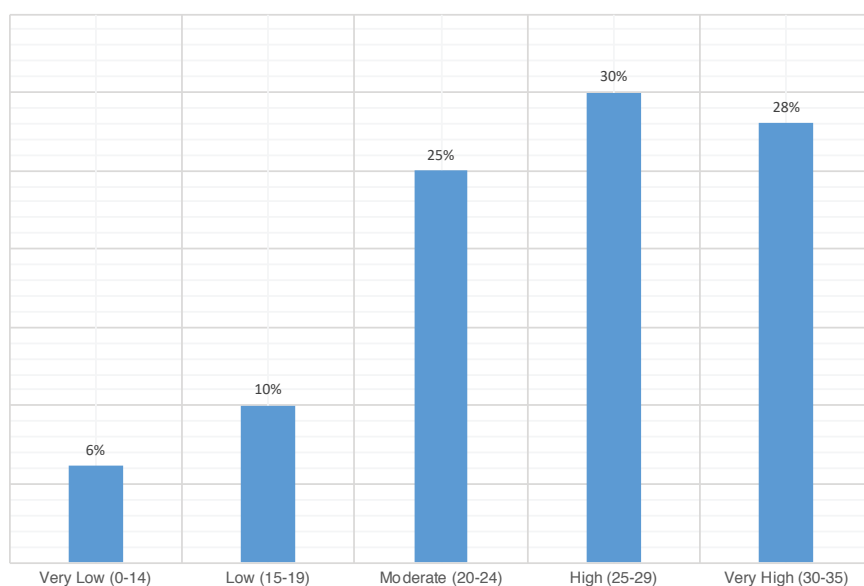
the questionnaire. The predominantly mid-high to high self-leadership scores implied that most respondents were skilful in deploying self-leadership behaviours.

5.2.3 Leader-member exchange (LMX)

Figure 33 depicts the responses on the internal leader-member exchange questionnaire (LMX) that was sent to internal personnel at the retailer, which achieved a response rate of 310.

Figure 33

Leader-Member Exchange Questionnaire (LMX) Responses (n=310)



Internal leader-member relationships, on average, were assessed to be moderate (25%), high (30%) and very high (28%) in quality of exchange, as indicated in Figure 33. Most of the seven items in the measurement instrument scored high to very high. Specifically, confidence and loyalty to the leader emerged with 69.3% agreement or strong agreement. In contrast, the aspect of 'followers feeling recognition of potential' garnered mixed responses. Respondents assessed their leader to not fully recognise their potential at 45% agreement, versus 55% of the respondents confirming a positive sense of how their potential was acknowledged by their leader. The recognition of follower-potential by a leader was closely linked to follower-admiration of the particular leader (Diskiene et al., 2019). According to Diskiene et al. (2019), potential recognition was particularly essential for new-entrant employees.

5.2.4 Retailer-supplier exchange (RSX)

The retailer-supplier exchange (RSX) was firstly assessed among the same internal team sample group, with the goal of measuring internal team member assessment of their relationships with strategic

suppliers. Secondly, the same retailer-supplier exchange (RSX) questionnaire was distributed among all strategic suppliers, in order to ascertain *their* assessment of the retailer-supplier relational quality, with an achieved response size of 65, which represents 43.4% of the strategic supplier cohort. The comparative descriptive statistics are presented in Table 24.

Table 24

Descriptive Statistics for Internal Team Member and External Supplier Team Member RSX Responses

RSX	N	Mean	Std dev
Total	287	3.14	0.74
Internal retailer team members	222	3.11	0.74
External supplier team members	65	3.21	0.74

The findings are also indicated in Figure 34, alongside the retailer cohort, in Figure 35.

Figure 34

Retailer-Supplier Exchange Questionnaire (RSX), Comparative Retailer (n=222) and Supplier Responses (n=65)

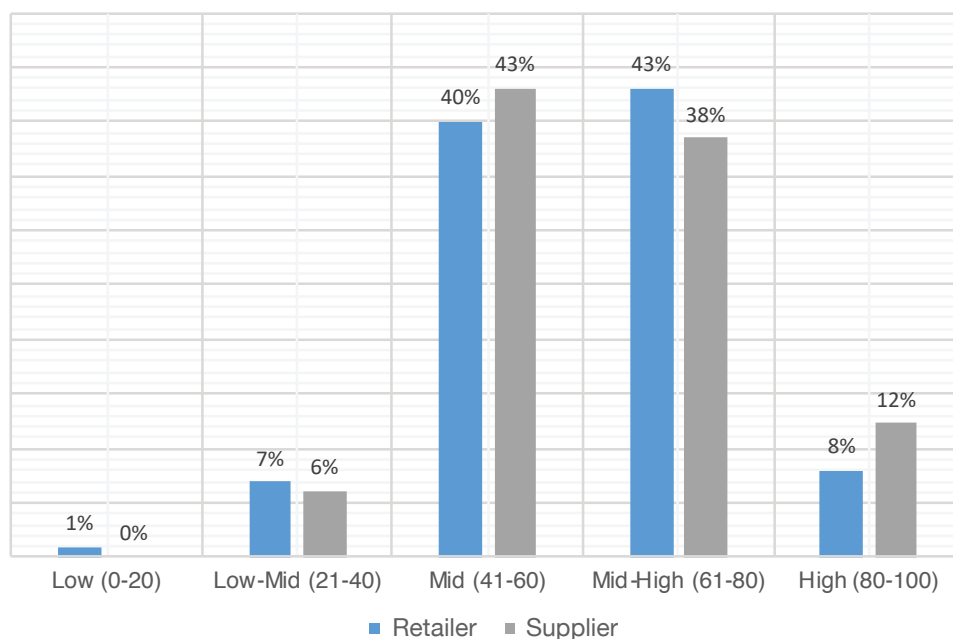


Figure 34 indicates that the internal team members scored their relationship quality with suppliers to high (8%), however at a predominant response rate to be mid/average (40%) or mid-high (43%). Although the RSX-supplier data was excluded from the larger SEM-model in the analysis to follow, a side-by-side comparison in Figure 34 indicates a similar distribution from both the internal team member and external supplier team member data sets. The respective responses were subjected to

analysis of variance (ANOVA) to assess whether the difference in scores was statistically significant. Figure 35 indicates the results of the ANOVA analysis.

Figure 35

Retailer-Supplier Exchange Questionnaire (RSX), Comparative Retailer (n=222) and Supplier Responses (n=65)

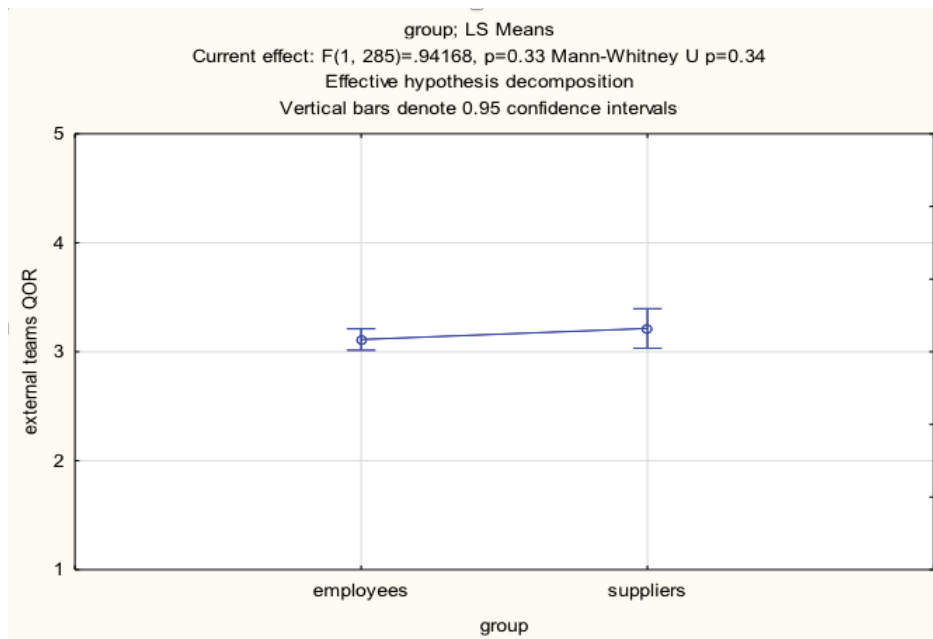


Figure 35 indicates that there was low statistical variation between the RSX scores from internal employees (retailer) compared to the responses from the supplier respondents, which was not statistically significant ($F(1, 258) = 0.94$; $p = 0.34$). The low variation was considered statistically rare, since leaders and members prioritise different aspects in their dyadic relationship, and the statistical expectations were for the variation to therefore be higher. Leaders focused on work-central issues like whether followers were team players, reliable, committed and self-directed, whereas followers were transfixed by social or developmental needs like whether there was a mutual understanding between themselves and their direct leaders, whether they were given opportunities to learn, and whether their leaders were friendly (Huang et al., 2008). Differing expectations such as these meant that a satisfactory relationship would rarely be unilateral, according to Huang et al. (2008, p. 279); however, this particular comparative sample indicated similarity in how internal team members and external supplier team members assessed the same relationship. In terms of internal team members assessing the relational strength with suppliers, in particular the item that addressed potential recognition, the internal team member respondents reported potential recognition to moderate (45.6%) or mostly (31.1%). Internal team members assessed how suppliers would rate the relationship

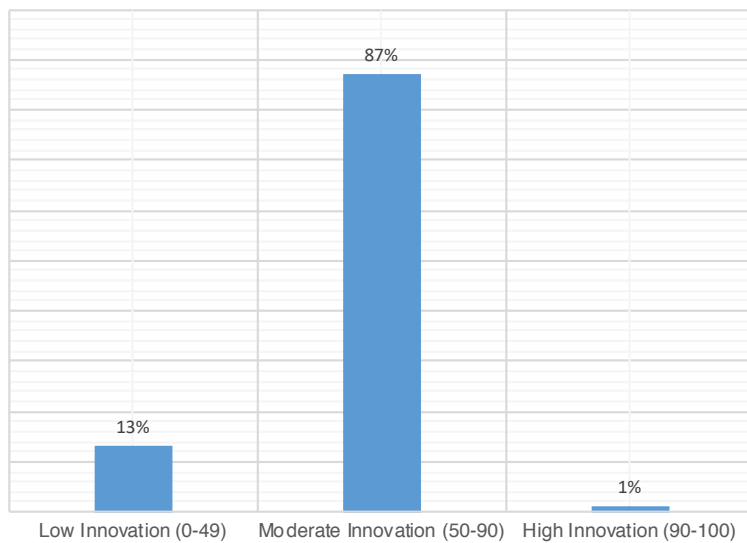
with the organisation; an 'average' characterisation achieved 49.01%, while 31.9% were of the opinion that suppliers would rate the working relationship to be better than average.

5.2.5 Perceived organisational innovativeness questionnaire

Responses to the *perceived organisational innovativeness questionnaire* (PORGI) were completed by 316 respondents, as indicated in Figure 36.

Figure 36

Perceived Organisational Innovativeness Questionnaire (PORGI) Responses (n=316)



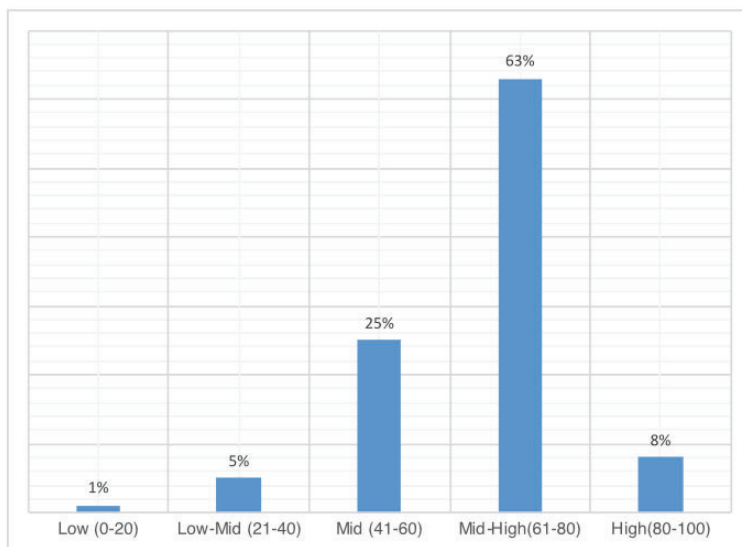
According to the PORGI instrument, a score of between 50 and 90 indicated perception of moderate innovativeness, which was where the average of the respondents perceived innovation in this organisation to be (Hurt et al., 1977). The result in Figure 36 demonstrated that the majority of respondents viewed the organisation as neither *highly innovative* or *lower-scoring on innovativeness*, in terms of perceived innovativeness (Rogers, 1995). These results also meant that according to the respondents the organisation was neither unprepared nor overly prepared for change or newness (DeMarzo, 2018). The majority of the respondents therefore assessed the organisation to be moderately prepared for newness and change. The organisation was therefore also placed in proximity to early majority or late majority in terms of innovativeness.

5.2.6 Product innovation performance scale (PIP)

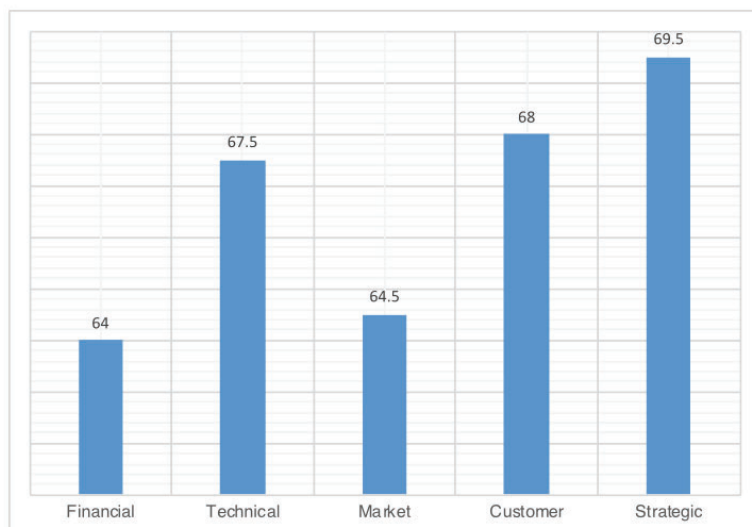
Figure 37 and Figure 38 demonstrate the responses on the *product innovation performance scale* (PIP) and its dimensions.

Figure 37

Product Innovation Performance Questionnaire (PIP) Responses (n=222)

**Figure 38**

Product Innovation Performance Questionnaire Responses Along Dimensions (n=222)



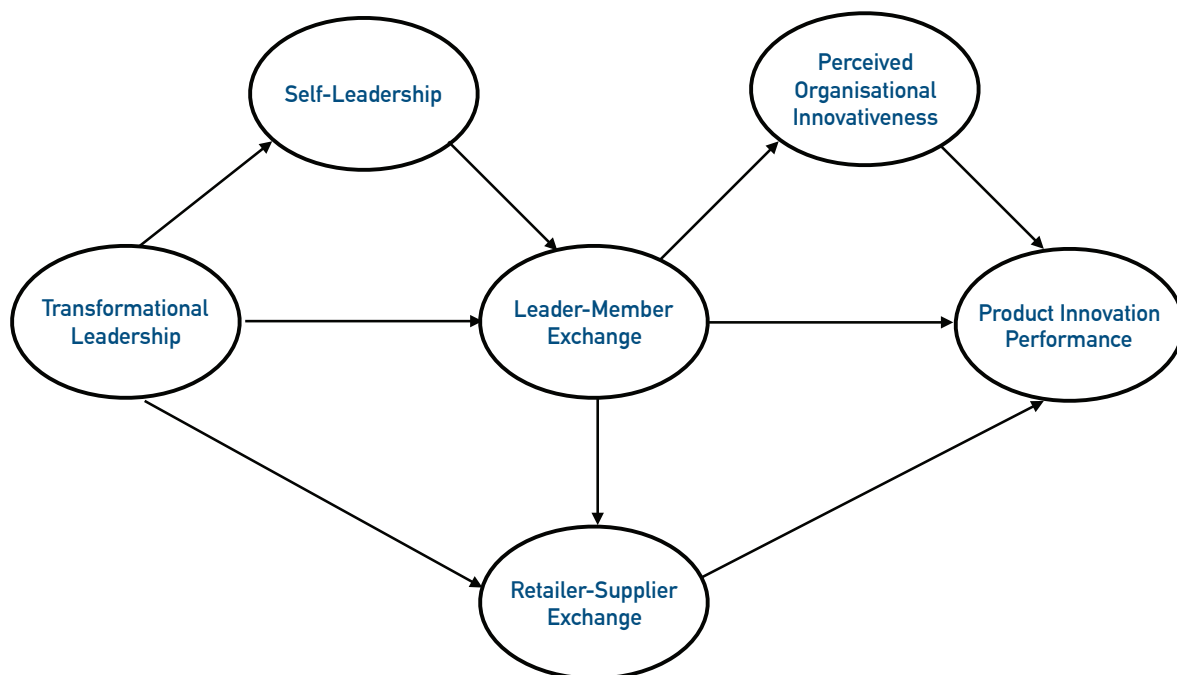
In Figure 38, performance measurement spans a few areas, including commercial, financial, technical and global; however, since product innovation was mainly concerned with generating profit, product innovation performance had to be assessed along financial and market performance (Hannachi, 2015). The average scores on the six dimensions were indicated in Figure 38; with market (64.5) and financial (64) scoring lowest.

5.3 CONCEPTUAL MODEL

The main objective of the quantitative phase was the analysis of the relationships between constructs or traits, utilising a structural equation model (SEM). The research model, as hypothesised in Chapter 3, was run through SEM, and is depicted in Figure 39.

Figure 39

Initial Conceptual Model



Structural equation modelling (SEM) enabled the simultaneous examination of a series of dependent relationships (Hair et al., 2014) to achieve a comprehension of myriad relationships amid complexity (Hair et al., 2019; Voth-Gaeddert & Oerther, 2014). The two main types of structural equation modelling approach included: (1) covariance-based (CB-SEM); and (2) partial least squares (PLS-SEM). The quantitative analysis focused primarily on PLS-SEM methodology (with some CB-SEM methods included as a secondary confirmation), commencing with the assessment of reliability and validity by focusing on the outer-model or the reflective measurement models.

5.4 OUTER-MODEL ASSESSMENT

For each of the constructs or reflective measurement models, the following assessment metrics were included: (1) reflective indicator (or factor) loadings; (2) internal consistency reliability; (3) convergent validity; (4) goodness-of-fit indices; (5) discriminant validity; and (6) construct correlations.

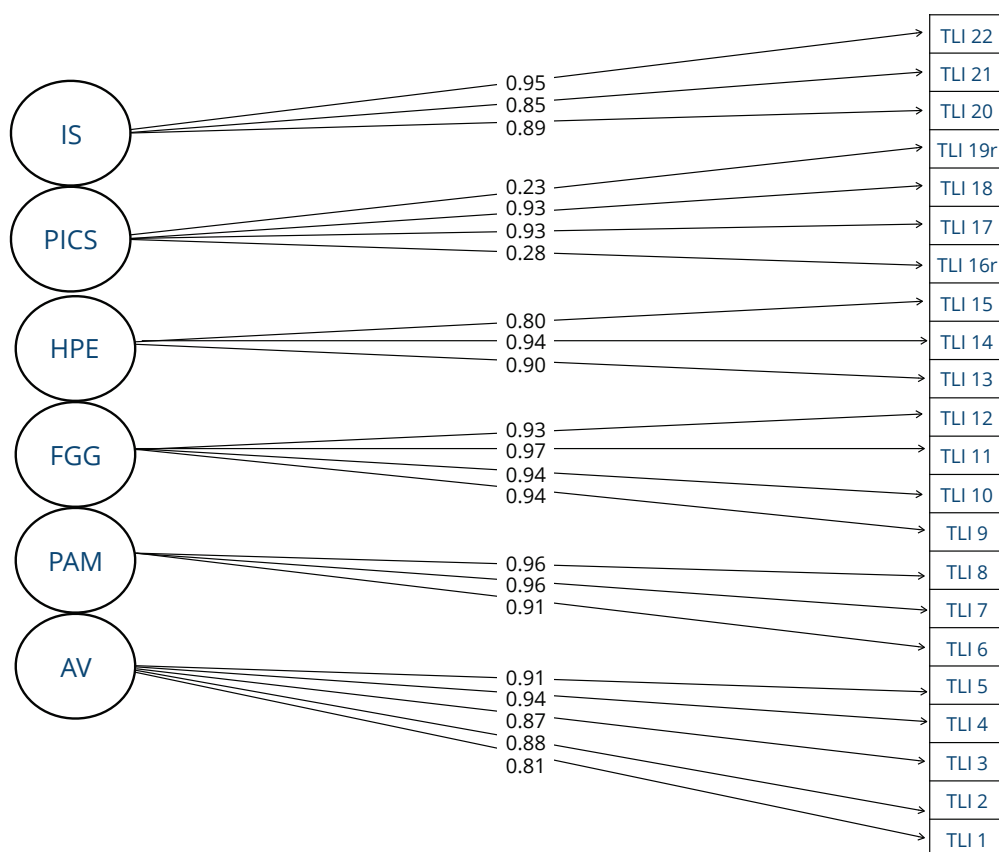
5.4.1 Transformational leadership inventory (TLI)

The transformational leadership inventory (TLI) developed by Podsakoff et al. (1990) initially indicated five factors (MacKenzie et al., 2001; Podsakoff et al., 1990), followed by six factors (Podsakoff et al., 1996; Pillai & Williams, 2003) and seven factors (Bommer et al., 2005; Krüger et al., 2011) in subsequent studies. The more recent studies indicated seven dimensions as articulated vision (AV), providing an appropriate model (PAM), fostering the acceptance of group goals (FGG), high-performance expectations (HPE), contingent reward (CR), providing individual consideration and support (PICS), and intellectual stimulation (IS).

Responses to the TLI were first subjected to a six-factor reflective indicator loading analysis according to the model proposed by Podsakoff et al., 1996, as indicated in Figure 40.

Figure 40

Transformational Leadership Inventory (TLI) Six-Factor Model



As indicated by Figure 40, the TLI results confirmed six factors, namely articulated vision (AV), providing an appropriate model (PAM), fostering the acceptance of group goals (FGG), high-performance expectations (HPE), providing individual consideration and support (PICS), and intellectual stimulation (IS).

Table 25 provides the standardised loadings for each item of the six-factor reflective indicator loading analysis, named TLI Model 1. The standardised loadings indicated which items load onto which factor in the TLI. Items with loadings of < 0.4 were problematic and are highlighted in yellow.

Table 25

Standardised Loadings for Six-Factor Indicator Loading Analysis TLI Model 1 (N=222)

Item	Factor	Estimate
TLI 1	Factor 1 (AV)	0.810
TLI 2	Factor 1 (AV)	0.875
TLI 3	Factor 1 (AV)	0.865
TLI 4	Factor 1 (AV)	0.942
TLI 5	Factor 1 (AV)	0.911
TLI 6	Factor 2 (PAM)	0.911
TLI 7	Factor 2 (PAM)	0.961
TLI 8	Factor 2 (PAM)	0.957
TLI 9	Factor 3 (FGG)	0.938
TLI 10	Factor 3 (FGG)	0.936
TLI 11	Factor 3 (FGG)	0.968
TLI 12	Factor 3 (FGG)	0.934
TLI 13	Factor 4 (HPE)	0.898
TLI 14	Factor 4 (HPE)	0.937
TLI 15	Factor 4 (HPE)	0.799
TLI 16r	Factor 5 (PICS)	0.282
TLI 17	Factor 5 (PICS)	0.934
TLI 18	Factor 5 (PICS)	0.932
TLI 19r	Factor 5 (PICS)	0.227
TLI 20	Factor 6 (IS)	0.891
TLI 21	Factor 6 (IS)	0.85
TLI 22	Factor 6 (IS)	0.947

From the standardised loadings for this six-factor indicator loading analysis of the TLI, the only two items that show a regression weight of < 0.4 are item TLI16 (i.e. 0.282) and item TLI19 (i.e. 0.227). Items TLI16 and TLI19 in the TLI confirm factor loadings that are considered below the acceptable level. Usually, a low loading would require either the removal of the problematic item and then repeating the analysis, which is referred to as “scale purification” (Wieland et al., 2018, p. 3347). Wieland et al. (2017) cautioned against item removal in order to improve the measurement scale as the omission of items may be done carelessly and thus “impair the measurement properties of scales

to operationalize constructs” (p. 321). The alternative to item removal was to return to literature to gain greater comprehension regarding the unideal item loading (Rigdon et al., 2011). While the removal of an item may have introduced artificiality in the results (Hair et al., 2019), this research study considered three options to address these low loadings in TLI16 and TLI19, namely: (1) retain measurement model as six-factor instrument with all items unchanged - referred to as TLI Model 1; (2) retain measurement model as six-factor instrument with items TLI16 and TLI19 removed - referred to as TLI Model 2; and (3) assess a seven-factor model with items TLI16 and TLI19 retained - referred to as TLI Model 3. Based on more recent TLI studies (Bommer et al., 2005; Krüger et al., 2011), the assessment on TLI Model 3 was conducted to include a seven-factor measurement model to accommodate the transactional leadership component. The inclusion of contingent reward (CR) as a seventh dimension was supported by more recent TLI studies (Bommer et al., 2005; Krüger et al., 2011). The seventh factor, namely contingent reward (CR), included items 16 and 19, which were supported by the literature as items pertaining to a transactional leadership style (Manz & Sims, 1991).

The internal consistency reliability was analysed by assessing composite reliability loading and Cronbach’s alpha, indicated in Table 26.

Table 26

Internal Consistency Reliability for TLI Model 1, 2 and 3 (n=222)

	TLI Model 1		TLI Model 2		TLI Model 3	
	Cronbach’s alpha	Composite reliability	Cronbach’s alpha	Composite reliability	Cronbach’s alpha	Composite reliability
Articulated vision (AV)	0.95	0.95	0.95	0.95	0.95	0.95
Providing an appropriate model (PAM)	0.96	0.96	0.96	0.96	0.96	0.96
Fostering the acceptance of group goals (FGG)	0.97	0.97	0.97	0.97	0.97	0.97
High performance expectations (HPE)	0.91	0.91	0.91	0.91	0.91	0.91
Providing individual consideration and support (PICS)	0.73	0.73	0.93	0.93	0.93	0.93
Intellectual stimulation (IS)	0.92	0.92	0.92	0.92	0.92	0.92
Contingent reward (CR)	n/a	n/a	n/a	n/a	0.80	0.80

The Cronbach’s alpha analysis for all three TLI models indicated to be above the basic threshold of 0.70. All except for one factor scores were above 0.90, indicating excellent reliability and internal consistency. In the case of factor PICS (providing individual consideration and support), the loading in

Model 1 presented as 0.73, which was considered close to the minimum viable loading. However, when the two problematic items were removed in Model 2, the Cronbach's alpha improved to 0.93. In Model 3, when these items were moved to a seventh factor, an acceptable Cronbach's alpha of 0.80 was assessed for contingent reward (CR). The composite reliability loadings scored as high as the Cronbach's alpha loadings, with a loading of 0.95 cited as too high and may have indicated redundancy (Hair et al., 2019). The first three factors, namely articulated vision (AV), providing an appropriate model (PAM), and fostering the acceptance of group goals (FGG) were all above the 0.95 higher threshold in all three models. The high composite reliability in AV, PAM and FGG substantiated the action of Podsakoff et al. (1990) to group these three dimensions into a second-order construct called core transformational leader behaviour.

Table 27 provides a summary of the key fit indices for TLI Model 1, 2 and 3.

Table 27

Comparison of Fit Indices for Six-Factor TLI Model 1 and 2, and Seven-Factor TLI Model 3 (n=222)

	Goodness-of-fit TLI model 1	Goodness-of-fit TLI model 2	Goodness-of-fit TLI model 3
Absolute fit			
Chi-square (p-value)	511.10 (0.000)	350.35 (0.000)	391.65 (0.000)
df	194	155	188
Comparative fit			
NFI	0.930	0.960	0.960
CFI	0.945	0.966	0.965
Other			
GFI	0.837	0.869	0.867
AGFI	0.787	0.822	0.821
SRMR	0.060	0.030	0.030
RMSEA	0.086	0.075	0.070

In the TLI Model 1, a chi-square of 511.10 (degrees of freedom (*df*) = 194, $p < 0.000$) was revealed in the reflective measurement model assessment. The ratio of chi-square to *df*, e.g. $511.10 / 194 = 2.634$ was considered good, with a value of < 3 indicating an overall good fit (Schreiber et al., 2006). TLI Model 2 reflected a chi-square ratio of 2.260, which reflected an acceptable fit. TLI Model 3 reflected a chi-square ratio of 2.08, which indicated the best fit of the three models being compared. In terms of the other fit indices, comparing TLI Model 1 and TLI Model 2 revealed improvements indicating a better fit of the data for the model, with an SRMR of 0.030, indicating an excellent model fit for the data and the model. The comparison between Model 1, 2 and 3 fit indices indicated both Model 2 and

3 to be an improvement on Model 1. The difference between Model 2 and 3 remained incremental, except for the improvement in RMSEA from 0.075 to 0.070. According to Kline (2005), a RMSEA of < 0.080 supported the acceptability of the fit. In its entirety, TLI Model 3 presented with the best fit indices when compared to TLI Model 1 and TLI Model 2. In addition, TLI Model 3 satisfied the retention of all items, since when items were omitted and re-tested, the omission may improve the fit indices; however, the average variance extracted (AVE) conducted would then artificially present better owing to the removal of problematic items.

The convergent validity, commonly measured as average variance extracted (AVE), was presented in Table 28.

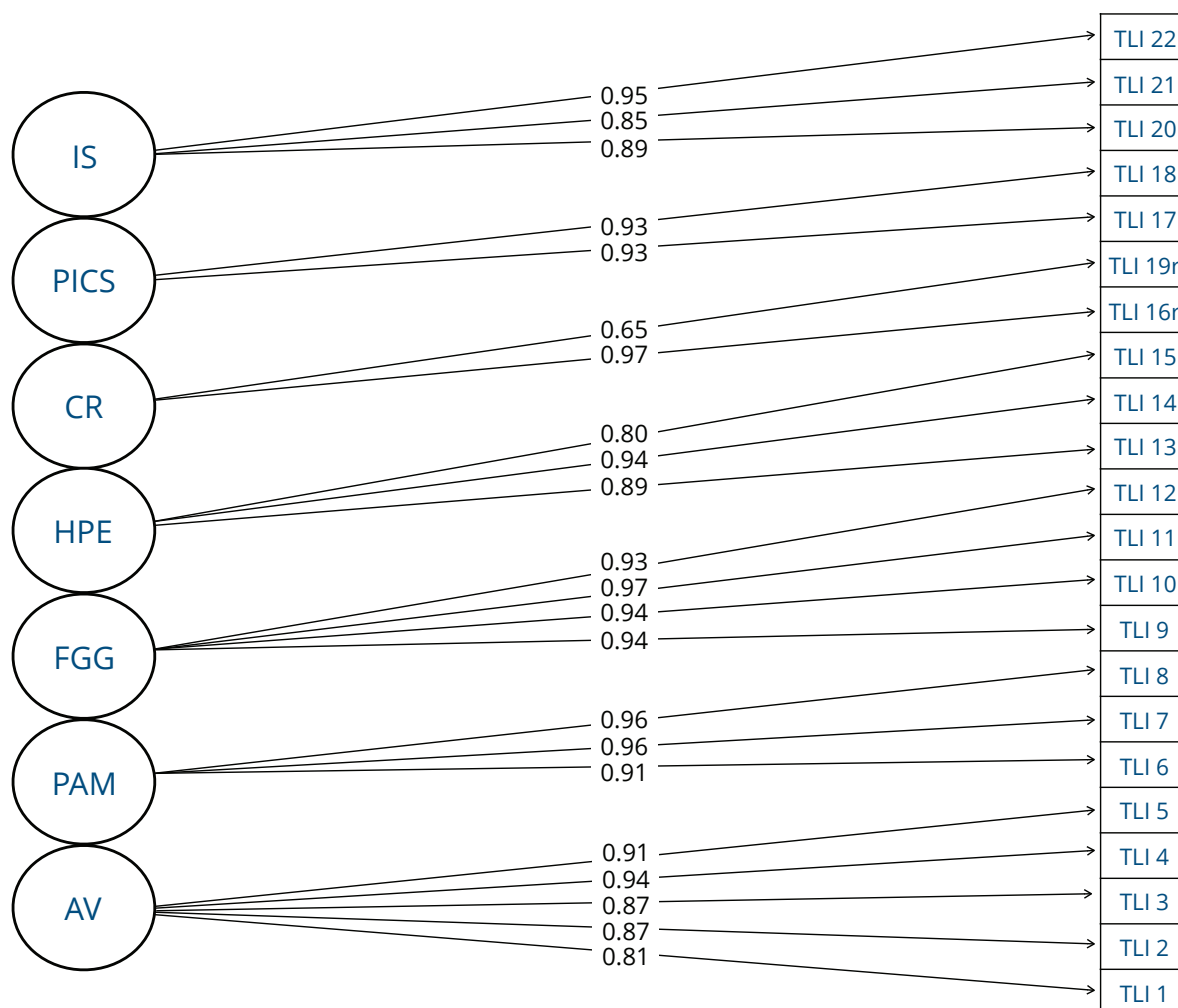
Table 28

Average Variance Extracted (AVE) for TLI Model 1, 2 and 3 (n=222)

	TLI Model 1	TLI Model 2	TLI Model3
Articulated vision (AV)	0.78	0.78	0.78
Providing an appropriate model (PAM)	0.89	0.89	0.89
Fostering the acceptance of group goals (FGG)	0.89	0.89	0.89
High-performance expectations (HPE)	0.77	0.77	0.77
Providing individual consideration and support (PICS)	0.47	0.87	0.87
Intellectual stimulation (IS)	0.80	0.80	0.80
Contingent reward (CR)	n/a	n/a	0.68

The acceptable loading for average variance extracted (AVE) was ≥ 0.50 (Othman et al., 2014). In TLI Model 1, all dimensions were well above the threshold with the exception of PICS (providing individual consideration and support). The removal of the two problematic items, TLI16 and TLI19, improved this factor from 0.47 (TLI Model 1) to 0.87 (TLI Model 2), which demonstrated the artificiality in the removal of problematic items. In TLI Model 3, the AVEs all reported well above 0.50, including the seventh factor CR (contingent reward) at 0.68, which further supported TLI Model 3 as the ideal measurement model assessment to include in the greater structural equation modelling calculations.

Responses to the TLI, subjected to a seven-factor reflective indicator analysis, according to the model proposed by Bommer et al. (2005) and Krüger et al. (2011), as indicated in Figure 41.

Figure 41*Transformational Leadership Inventory (TLI) Seven-Factor Model*

As indicated by Figure 41, the TLI consisted of seven factors: articulated vision (AV), providing an appropriate model (PAM), fostering the acceptance of group goals (FGG), high-performance expectations (HPE), contingent reward (CR), providing individual consideration and support (PICS), and intellectual stimulation (IS) - each factor with between two and five items. Each factor's items reported factor loadings of 0.81 or more, with the exception of item 19 with a loading of 0.65. Since the factor loadings of the TLI all reported to be in excess of 0.7, except for item 19, these items all represented the particular dimensions accurately.

Table 29 indicate the discriminant validity loadings for TLI Model 3.

Table 29*Discriminant Validity Expressed in Heterotrait-Monotrait Ratio Values for TLI Model 3*

Discriminant validity: Heterotrait-monotrait ratio					
From	To	Ratio	95% lower	95% upper	Discriminate
Transformational leadership	External retailer-supplier exchange	0.34	0.21	0.48	yes
Transformational leadership	Perceived organisational innovativeness	0.25	0.13	0.37	yes
Transformational leadership	Product innovation performance	0.26	0.13	0.41	yes
Transformational leadership	Self-leadership	0.17	0.07	0.25	yes
Transformational leadership	Internal leader-member exchange	0.89	0.83	0.94	yes

Table 29 indicates that the transformational leadership (TLI) model was sufficiently distinctive from the first four constructs; however, an exceptionally high HTMT ratio between LMX and transformational leadership (TLI) was indicated. According to Henseler et al. (2015), in cases where concepts were very similar, the threshold could increase to 0.90 without compromising discriminant validity. Krishnan (2005, p. 19) confirmed the conceptual similarities between TLI and LMX existed in the context of “terminal value congruence” but not “instrumental value congruence”. Terminal value congruence indicated that the ‘end-states’ of TLI and LMX were the same, while instrumental value congruence indicated that the ‘modes of conduct’ were different. An example of ‘terminal value congruence’ in the context of transformational leaders and leader-member exchange relationships is that a similar outcome in both cases might be *higher levels of follower empowerment*. For example, leaders with high levels of transformational leadership would typically increase their follower level of empowerment (Cho & Dansereau, 2010). Likewise, the effect of high-quality leader-member exchange was typically also high levels of follower empowerment (Hill et al., 2014). The manner in which a transformational leader awakens higher levels of empowerment was different from the manner in which it occurred with high-quality leader-member exchange relationships (Krishnan, 2005). The score of 0.89 (highlighted in yellow in Table 29) was therefore contextualised, and TLI and LMX constructs were sufficiently distinctive for both to remain in the model.

The three-factor TLI Model 3 was considered a statistically sound instrument to measure transformational leadership for this sample, and was based on: (1) reflective indicator loadings; (2)

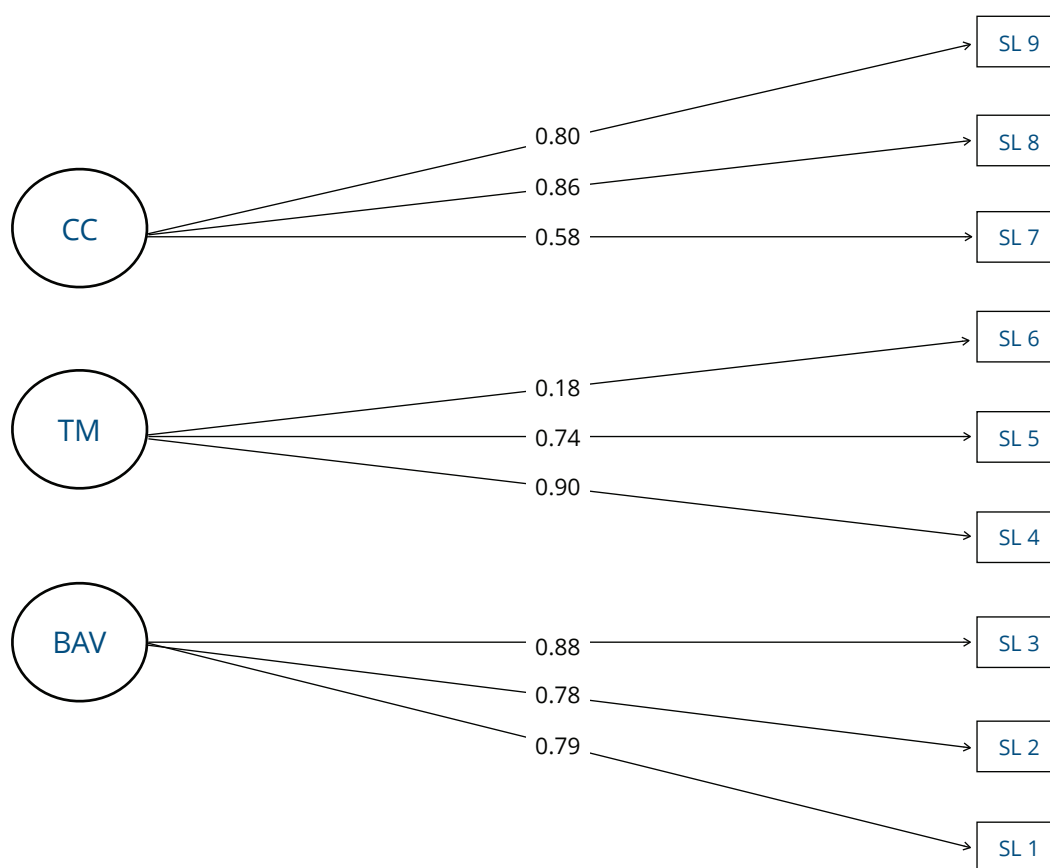
internal consistency reliability; (3) convergent validity; (4) goodness-of-fit indices; and (5) discriminant validity loadings.

5.4.2 Abbreviated self-leadership Scale (ASLQ)

The development of the abbreviated self-leadership scale (ASLQ) by Houghton et al. (2012) indicated three strong factors, namely behavioural strategies (BAV), cognitive strategies (CC), and natural reward strategies (TM). Responses to the ASLQ were subjected to a three-factor reflective indicator loading analysis according to the model proposed by Houghton et al. (2021), as indicated in Figure 42.

Figure 42

Abbreviated Self-Leadership Questionnaire Three-Factor Model



As indicated by Figure 42, the ASLQ consists of three factors: (1) behavioural strategies (BAV); (2) cognitive strategies (CC); and (3) natural reward strategies (TM), all of which were measured through three items for each factor.

Table 30 provides the standard loadings for each item of the three-factor reflective indicator loading analysis. The standardised loadings indicated which items loaded onto which factor in the ASLQ. One item with a loading of < 0.4 was highlighted in yellow in Table 30.

Table 30*Standardised Loadings for Three-Factor Indicator Loading Analysis for ASLQ (N=222)*

Item	Factor	Estimate
SL 1	Factor 1 (BAV)	0.794
SL 2	Factor 1 (BAV)	0.780
SL 3	Factor 1 (BAV)	0.876
SL 4	Factor 2 (TM)	0.897
SL 5	Factor 2 (TM)	0.738
SL 6	Factor 2 (TM)	0.179
SL 7	Factor 3 (CC)	0.558
SL 8	Factor 3 (CC)	0.863
SL 9	Factor 3 (CC)	0.802

From the standardised loadings for this three-factor indicator loading analysis of the ASLQ, the only item that showed a regression weight of < 0.4 was item-SL6. Item-SL6 in the ASLQ confirmed a factor loading of 0.179, which was considered below the acceptable level. Conventionally, a low loading would require either the removal of the problematic item and then repeating the analysis (Wieland et al., 2017), or finding substantial theoretical motivation for the indicator loading analysis to remain per the initial results (Rigdon et al., 2011). Theoretically, item-SL6 pertained to ‘the reward mechanisms in place for successful job completion’, and the only item in the questionnaire with a focus on ‘reward’. In comparison, the original revised self-leadership questionnaire (RSLQ) contained two items pertaining to reward, namely, ‘self-reward’ and ‘natural rewards’ (Houghton & Neck, 2002). Since the ASLQ is known for brevity, it is recommended as a general measurement of self-leadership (Şahin, 2015). In cases where the focal point is to exclusively understand self-leadership, the original revised self-leadership questionnaire (RSLQ) should be utilised. The objective of this research study was primarily an enquiry pertaining to the conceptual relationships with each of the constructs, and to a lesser degree a focus on specific traits. When items were omitted and re-tested, this might have improved the fit indices; however, the average variance extracted (AVE) conducted would then artificially present a better loading owing to the removal of problematic items. The outer-model assessments for ASLQ were reported with item-SL6 included (ASLQ Model 1) and item-SL6 excluded (ASLQ Model 2), in order to indicate the degree to which an exclusion of item-SL6 would improve each assessment component.

The internal consistency reliability was analysed for ASLQ Model 1 and ASLQ Model 2, by assessing composite reliability loading and Cronbach’s alpha, indicated in Table 31.

Table 31*Internal Consistency Reliability for ASLQ Model 1 and 2 (n=222)*

	ASLQ Model 1		ASLQ Model 2	
	Cronbach's alpha	Composite reliability	Cronbach's alpha	Composite reliability
Behavioural strategies (BAV)	0.86	0.86	0.86	0.86
Cognitive strategies (CC)	0.77	0.79	0.77	0.79
Natural reward strategies (TM)	0.61	0.67	0.79	0.80

The Cronbach's alpha analysis for ASLQ Model 1 indicated factor TM (natural reward strategies) to be below the ideal threshold of 0.70. The Cronbach's alpha in ASLQ Model 2 indicated an improvement from 0.61 to 0.79. The composite reliability loadings should have been between 0.70 and 0.90 to indicate ideal reliability levels. In ASLQ Model 1, factor TM (natural reward strategies) was slightly below the ideal threshold, with a satisfactory improvement for the same factor to 0.79 in ASLQ Model 2. While ASLQ Model 2 was an overall improvement on ASLQ Model 1, the shift remained insufficient motivation to remove item-SL6 from the measurement model.

The convergent validity, commonly measured as average variance extracted (AVE), is presented in Table 32.

Table 32*Average Variance Extracted (AVE) for ASLQ Model 1 and 2 (n=222)*

	ASLQ Model 1	ASLQ Model 2
Behavioural strategies (BAV)	0.67	0.67
Cognitive strategies (CC)	0.57	0.57
Natural reward strategies (TM)	0.46	0.68

The acceptable loading for average variance extracted (AVE) was ≥ 0.50 (Othman et al., 2014). In ASLQ Model 1, the problematic factor TM (natural reward strategies) presented an AVE-loading of 0.46, which was marginally below the 0.50 threshold. The removal of item-SL6 changed the AVE-loading for the same factor to 0.68, which created an artificial acceptability.

Table 33 provides a summary of the key fit indices for ASLQ Model 1 and 2.

Table 33*Comparison of Fit Indices for Three-Factor ASLQ Model 1 and 2 (n=222)*

	Goodness-of-fit ASLQ Model 1	Goodness-of-fit ASLQ Model 2
Absolute fit		
Chi-square (p-value)	41.99 (0.013)	26.59 (0.064)
df	24	17
Comparative fit		
NFI	0.970	0.980
CFI	0.978	0.988
Other		
GFI	0.962	0.972
AGFI	0.929	0.941
SRMR	0.05	0.03
RMSEA	0.058	0.050

In ASLQ Model 1, a chi-square of 41.99 (degrees of freedom (*df*) = 24, $p < 0.013$) was revealed in the reflective measurement model assessment. The ratio of chi-square to *df*, e.g. $41.99 / 24 = 1.74$ was considered good, with a value of < 3 indicating an overall good fit (Schreiber et al., 2006). A chi-square value that was closer to zero indicated a better fit although any value < 3 was considered good (Schreiber et al., 2006). The ASLQ Model 2 chi-square to *df* ratio of 1.56, which was slightly more ideal than the ratio in ASLQ Model 1. In terms of the other fit indices, ASLQ Model 1 indicated sufficient fit index values for all items, and while ASLQ Model 2 indicated fit indices that were more ideal, the improvements remained marginal and not sufficient to motivate for the removal of item-SL6.

Table 34 indicates the discriminant validity loadings for the ASLQ model.

Table 34*Discriminant Validity Expressed in Heterotrait-Monotrait Ratio Values for the ASLQ Model*

Discriminant validity: Heterotrait-monotrait ration					
From	To	Ratio	95% lower	95% upper	Discriminate
Self-leadership	External retailer-supplier exchange	0.18	0.08	0.31	yes
Self-leadership	Internal leader-member exchange	0.15	0.06	0.23	yes
Self-leadership	Perceived organisational innovativeness	0.25	0.14	0.43	yes
Self-leadership	Product innovation performance	0.24	0.11	0.40	yes
Self-leadership	Transformational leadership	0.17	0.07	0.25	yes

Table 34 indicates that the abbreviated self-leadership (ASLQ) model was sufficiently distinctive with none of the ratio loadings close to the 0.80 threshold.

The three-factor ASLQ Model 1 was considered a statistically sound instrument to measure self-leadership for this sample, based on: (1) reflective indicator loadings; (2) internal consistency reliability; (3) convergent validity; (4) goodness-of-fit indices; and (5) discriminant validity loadings.

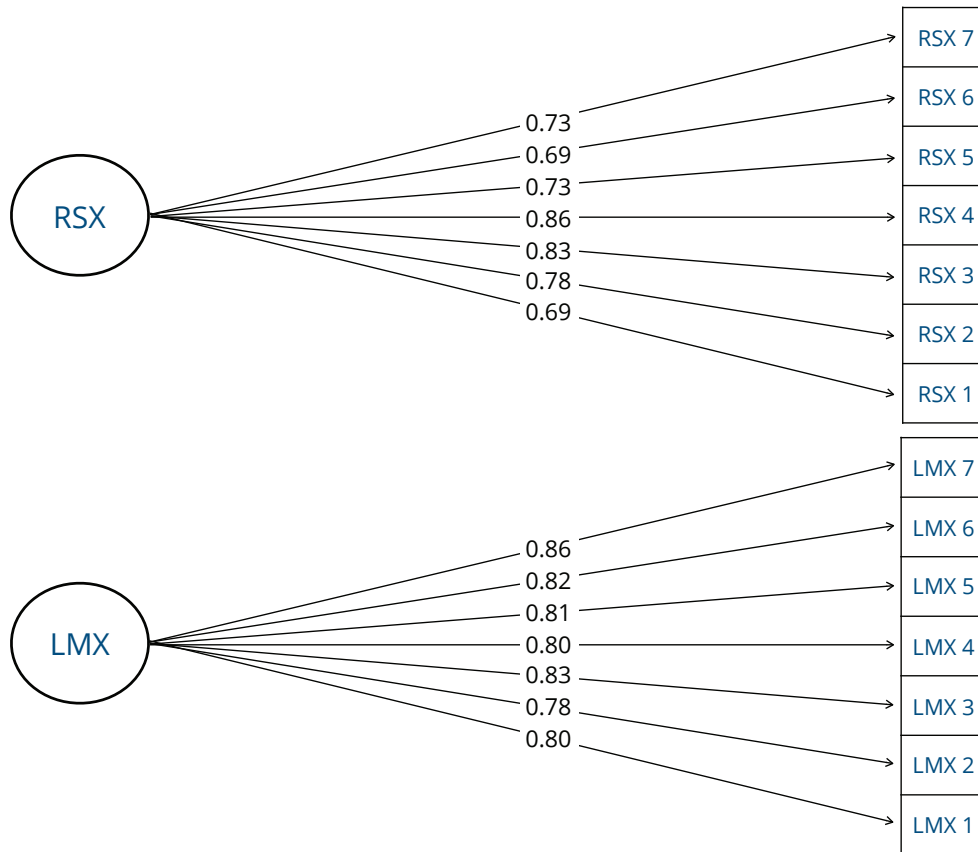
5.4.3 Leader-member exchange (LMX) and retailer-supplier exchange (RSX)

The development of the LMX-7 by Graen and Uhl-bien (1995) included seven items all of which were grouped as a single factor. The RSX questionnaire was a duplicate of the LMX, with a different enquiry perspective. Internal team members assessed their relationship with their team leader to provide LMX data. Internal team members assessed the retailer's relationship with suppliers as part of the RSX data. The RSX data obtained from the supplier's perspective, namely the relationship strength between suppliers and internal retailer team members, were not included in the structural equation model.

Responses to the LMX and RSX were respectively subjected to a single-factor reflective indicator loading analysis according to the model proposed by Graen and Uhl-bien (1995), as indicated in Figure 43.

Figure 43

Internal Leader-Member Exchange (LMX) and External Retailer-Supplier Exchange (RSX) Single-Factor Model



As indicated by Figure 43, the LMX and RSX models consist of a single factor and seven items. In the LMX model, all items load above 0.708, while in the RSX model, two of the items load at 0.69. The RSX item 1 and item 6 load well above 0.30, and incrementally below 0.70, and are therefore deemed statistically acceptable.

Table 35 provides the standard loadings for each item of the single factor reflective indicator loadings. The standardised loadings indicate which items load onto which factor in the LMX and RSX.

Table 35*Standardised Loadings for Single-Factor Indicator Loading Analysis for LMX and RSX (N=222)*

LMX		RSX	
Item	Estimate	Item	Estimate
LMX 1	0.801	RSX 1	0.694
LMX 2	0.780	RSX 2	0.775
LMX 3	0.832	RSX 3	0.829
LMX 4	0.798	RSX 4	0.859
LMX 5	0.807	RSX 5	0.726
LMX 6	0.820	RSX 6	0.686
LMX 7	0.865	RSX 7	0.731

From the standardised loadings for this single-factor indicator loading analysis of the LMX and RSX, none of the items indicate a regression weight below the < 0.4 acceptability level. All items therefore explain more than 50% of the indicator's variance and that each item exhibits a satisfactory degree of reliability for this assessment.

The internal consistency reliability was analysed for LMX and RSX, by assessing composite reliability loading and Cronbach's alpha, indicated in Table 36.

Table 36*Internal Consistency Reliability for LMX and RSX (n=222)*

	LMX		RSX	
	Cronbach's alpha	Composite reliability	Cronbach's alpha	Composite reliability
Total	0.93	0.93	0.90	0.90

The Cronbach's alpha analysis and composite reliability for both LMX and RSX indicated excellent loadings of 0.90 (RSX) and 0.93 (LMX). The internal consistency and validity in these measurement models were therefore at high acceptability levels.

The convergent validity, commonly measured as average variance extracted (AVE), are presented in Table 37.

Table 37*Average Variance Extracted (AVE) for LMX and RSX (n=222)*

	LMX	RSX
	AVE	AVE
Total	0.66	0.57

The acceptable loading for average variance extracted (AVE) was ≥ 0.50 (Hair et al., 2019). The loadings for at 0.66 (LMX) and 0.57 (RSX) positively contributed to the validity assessment of these two reflective measurement models.

Table 38 provides a summary of the key fit indices for single-factor goodness-of-fit indices for both LMX and RSX.

Table 38*Fit Indices for Single-Factor Goodness-of-Fit Indices for LMX and RSX (n=222)*

	Goodness-of-fit LMX & RSX
Absolute fit	
Chi-square (p-value)	222.95 (0.000)
df	76
Comparative fit	
NFI	0.920
CFI	0.930
Other	
GFI	0.871
AGFI	0.822
SRMR	0.050
RMSEA	0.093

The fit indices indicated a chi-square of 222.95 (degrees of freedom (df) = 76, $p < 0.000$), which was obtained from the reflective measurement model assessment. The ratio of chi-square to df , e.g. $222.95/76 = 2.93$, was indicative that the data had a good fit with this single-factor model of the LMX and RSX. A chi-square value that was closer to zero indicated a better fit, although any value < 3 was considered good (Schreiber et al., 2006). The NFI and CFI values were both between the 0.90 and 0.95 interval, rendering good fit indices; however the GFI and AGFI were considered mediocre fitting values. When the RMSEA was 0.06 or less, it was considered a good fit and 0.08 was considered a mediocre fit (Kenny et al., 2015). The RMSEA values of 0.093 for both LMX and RSX were therefore

considered well outside the acceptability threshold. Overall, the LMX and RSX reflective measurement models satisfied four of the seven fit index values as acceptable, while three of the indices (RMSEA, GFI and AGFI) were considered mediocre-fitting.

Table 39 indicates the discriminant validity loadings for LMX-model.

Table 39

Discriminant Validity Expressed in Heterotrait-Monotrait Ratio Values for the LMX Model

Discriminant validity: Heterotrait-monotrait ration					
From	To	Ratio	95% lower	95% upper	Discriminate
Internal leader-member exchange	External retailer-supplier exchange	0.23	0.11	0.36	yes
Internal leader-member exchange	Perceived organisational innovativeness	0.17	0.09	0.28	yes
Internal leader-member exchange	Product innovation performance	0.17	0.08	0.3	yes
Internal leader-member exchange	Self-leadership	0.15	0.06	0.23	yes
Internal leader-member exchange	Transformational leadership	0.89	0.83	0.94	yes

Table 39 indicates that the internal leader-member exchange (LMX) model was sufficiently distinctive from the first four constructs; however, an exceptionally high HTMT ratio between LMX and transformational leadership (TLI) was indicated. According to Henseler et al. (2015), in cases where concepts were very similar, the threshold could increase to 0.90 without compromising discriminant validity. Krishnan (2005, p. 19) confirmed that the conceptual similarities between TLI and LMX existed in the context of “terminal value congruence”, but not “instrumental value congruence”. Terminal value congruence indicated that the ‘end-states’ of TLI and LMX were the same, while instrumental value congruence indicated that the ‘modes of conduct’ were different. An example of “terminal value congruence” in the context of transformational leaders and leader-member exchange relationships, a similar outcome in both cases may have been *higher levels of follower empowerment*. The score of 0.89 (highlighted in yellow in Table 39) was therefore contextualised, and TLI and LMX constructs were sufficiently distinctive for both to remain in the model.

Table 40 indicates the discriminant validity loadings for the RSX model.

Table 40*Discriminant Validity Expressed in Heterotrait-Monotrait Ratio Values for the RSX Model*

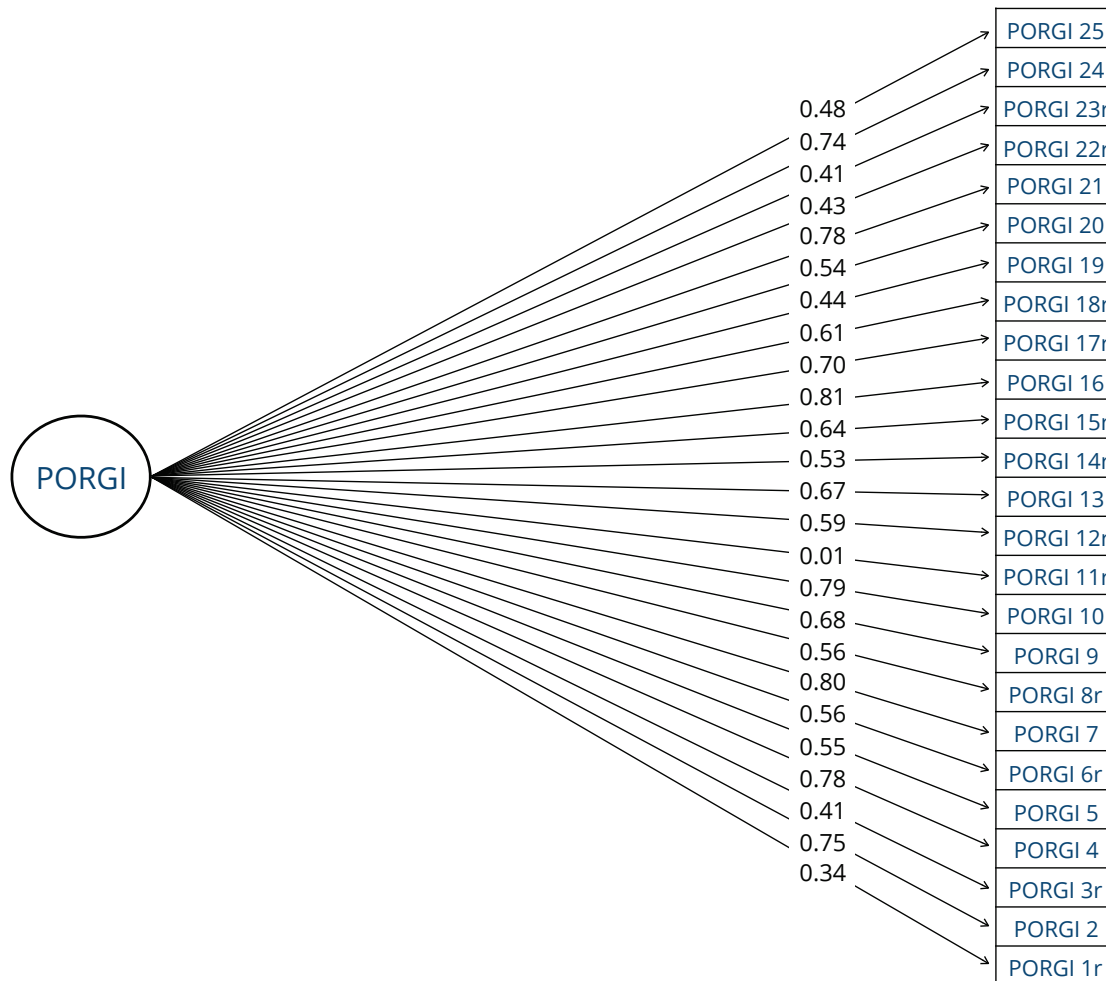
Discriminant validity: Heterotrait-monotrait ratio					
From	To	Ratio	95% lower	95% upper	Discriminate
External retailer-supplier exchange	Internal leader-member exchange	0.23	0.11	0.36	yes
External retailer-supplier exchange	Perceived organisational innovativeness	0.68	0.57	0.76	yes
External retailer-supplier exchange	Product innovation performance	0.48	0.33	0.59	yes
External retailer-supplier exchange	Self-leadership	0.18	0.08	0.31	yes
External retailer-supplier exchange	Transformational leadership	0.34	0.21	0.48	yes

Table 40 indicates that the retailer-supplier exchange (RSX) model is sufficiently distinctive with none of the ratio loadings close to the 0.80 threshold.

The single-factor LMX and RSX are considered statistically acceptable instruments to measure leader-member exchange and retailer-supplier exchange, respectively, for this sample, based on: (1) reflective indicator loadings; (2) internal consistency reliability; (3) convergent validity; (4) goodness-of-fit indices; and (5) discriminant validity loadings.

5.4.4 Perceived organisational innovativeness scale

The development of the perceived organisational innovativeness scale (PORGI) by Hurt and Teigen (1977) indicated a one-factor measurement instrument. Responses to the PORGI were subjected to a unidimensional reflective indicator loading, according to the model proposed by Hurt and Teigen (1977), as indicated in Figure 44.

Figure 44*Perceived Organisational Innovativeness Unidimensional Factor Model*

As indicated by Figure 44, the PORGI model consisted of a single factor and 25 items. Several of the factor loadings were significantly below the 0.708 threshold for reliability factor loadings. Nine of the 25 items indicated factor loadings below 0.708.

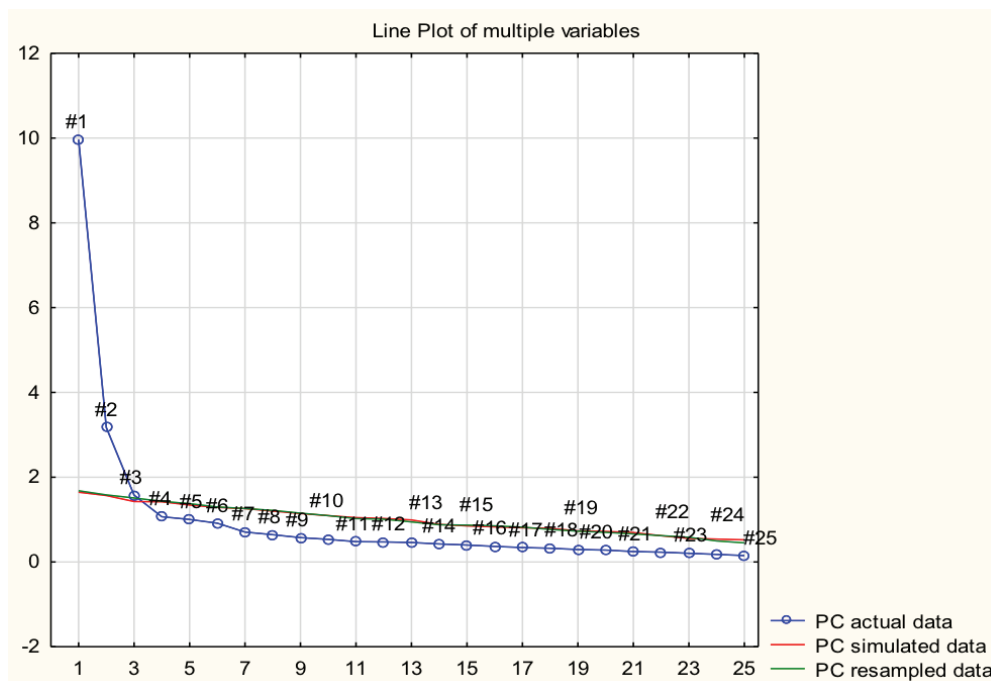
Table 41 provides a summary of the key fit indices for single-factor goodness-of-fit indices for PORGI.

Table 41*Fit Indices for Single-Factor Goodness-of-Fit Indices for PORGI (n=222)*

	Goodness-of-fit PORGI Model 1
Absolute fit	
Chi-square (p-value)	1352.21 (0.000)
df	275
Comparative fit	
NFI	0.640
CFI	0.667
Other	
GFI	0.543
AGFI	0.460
SRMR	0.120
RMSEA	0.133

A chi-square of 1352.21 (degrees of freedom (*df*) = 275, $p < 0.000$) was revealed in the fit indices. The ratio of chi-square to *df*, e.g. $1352.21 / 275 = 4.917$, was considered above the acceptable threshold, with a value of < 3 indicating an overall good fit (Schreiber et al., 2006). Since a good fit for RMSEA was considered 0.05, with 0.06 and 0.10 being acceptable, the PORGI one-factor RMSEA of 0.133 in Table 41 was outside the acceptable statistical purview. As a result of none of the fit indices reaching acceptable values to indicate a good fit, an EFA was conducted to refine the internal factor structure of this instrument.

The line plot in Figure 45 indicates eigen values derived from principle axis factoring.

Figure 45*PORGI Line Plot of Variables*

According to the scree plot in Figure 45, a parallel analysis was conducted to indicate how many factors were indicated. The blue line indicated the PORGI data, while the green and red lines indicated random simulated data. The general guideline was that the eigen values of the data scree plot should be greater than the random data, in order to indicate the number of factors. The results in Figure 45 and Table 42 indicate that four factors account for most of the variance in the model with eigen values >1 , of which one showed an eigen value of 9.96, the next 3.17 and the last two indicated eigen values of 1.58 and 1.07, which motivated an inquest to confirm whether this construct was better suited to a four-factor model. While the fourth factor was below the random data in Figure 45, this factor indicated an eigen value above 1 and the theory supported four aspects of similar content.

Table 42*Eigen Values for a Four-Factor PORGI (N=222)*

Value	Eigen value
1	9.96
2	3.17
3	1.58
4	1.07

An oblique rotation of the axes was conducted in order to determine the correlations between the factors through an oblimin with kaiser normalisation and represented in Table 43.

Table 43

A Four-Factor Pattern Matrix from Oblimin Rotation for PORGI

Item	Factor 1	Factor 2	Factor 3	Factor 4
PORGI 1r	0.13	-0.85	-0.06	0.12
PORGI 2	-0.71	0.10	0.20	0.11
PORGI 3r	0.02	-0.74	0.05	0.00
PORGI 4	-0.75	-0.01	0.07	0.14
PORGI 5	-0.44	-0.01	0.03	0.48
PORGI 6r	-0.15	-0.71	0.06	0.03
PORGI 7	-0.83	0.06	0.10	-0.01
PORGI 8r	-0.32	-0.40	0.23	-0.29
PORGI 9	-0.53	-0.12	0.08	0.32
PORGI 10	-0.74	-0.09	0.04	0.12
PORGI 11r	0.48	-0.33	0.42	0.08
PORGI 12r	-0.29	-0.56	0.11	-0.13
PORGI 13	-0.67	0.10	0.16	0.08
PORGI 14r	-0.13	-0.09	0.70	-0.14
PORGI 15r	-0.24	-0.51	0.33	-0.18
PORGI 16	-0.83	0.02	0.12	-0.07
PORGI 17r	-0.37	-0.22	0.54	-0.24
PORGI 18r	-0.20	-0.05	0.75	-0.12
PORGI 19	-0.20	0.21	0.46	0.40
PORGI 20	-0.35	-0.03	0.07	0.63
PORGI 21	-0.77	-0.17	-0.09	0.10
PORGI 22r	0.02	-0.81	0.02	0.00
PORGI 23r	0.18	-0.07	0.81	0.24
PORGI 24	-0.79	-0.22	-0.19	0.00
PORGI 25	-0.29	-0.23	-0.11	0.57

In Table 43, the first column represents the items from the PORGI-scale with some items indicating the letter 'r', which simply indicates initial reverse scored items in the measurement instrument, all of which were reversed prior to the start of the analyses. A pattern matrix from an oblique rotation required each item's loadings to be <0.32 at a minimum (Tabachnick & Fidell, 2001). A loading of 0.50 indicated a strong correlation with the factor (Hair et al., 1995). All the items in Table 43 loaded above

< 0.32 on at least one of the factors. The items in Table 43 highlighted in yellow represented items that loaded the strongest, and these items were linked uncontestedly to one of the four factors. Cross-loaded items were defined as an item loading at < 0.32 on more than one factor (Costello & Osborne, 2005). Items highlighted in blue were items that potentially cross-loaded to more than one of the factors. Six items cross-loaded to more than one factor, with item 8 cross-loading at all four factors and item 11 cross-loading at three factors. Prior to resolving cross-loaded items, each factor first required the assigning of a dimension descriptor, based on the established literature on perceived organisational innovativeness. Each dimension was therefore rooted in existing literature. The cross-loaded items were then grouped according to which dimension they best suited in terms of content.

The following names were assigned to each factor, in line with theoretical support:

- **Factor 1: intra-leadership** - these items referred to how the business leads in innovation, irrespective of the industry or external milieu. Sub-elements included 'welcoming and driving change and newness', 'original', 'experimenting', and 'appetite for taking risk'.
- **Factor 2: change resistance** - these items were all focused on a reluctance for and scepticism about change with sub-elements, such as 'need proof of success first', 'the current way is best', 'newness as untrustworthy', etc.
- **Factor 3: slow-paced innovation** - all these items made reference to the slow speed of innovation, for example 'the last to change', 'slow response'.
- **Factor 4: inter-leadership** - specifically focused on the innovation leadership of the business in the context of industry or external environment. Sub-elements included 'industry leader', 'sought out for advice by other companies', and 'influential industry player'.

The six items that cross-loaded to more than one factor were grouped with the dimension that best explained the item from a content perspective. Four of the six cross-loaded items were appropriately matched to the dimensions where they scored the highest in loading values. The highest scored item when considering loading-to-dimension was confirmed when comparing the content of the item to the theme of the dimensions. There were four cross-loaded items that suited a particular factor best, confirmed by a higher loading, as well as confirmation that the content of the item suited the factor description best.

There were three items that did not suit the highest loading-to-dimension. Item 11 cross-loaded to three dimensions, namely factor 1 (0.48), factor 2 (-0.33) and factor 3 (0.42). Based on the highest loading, item 11 should have been assigned to factor 1. However, this item may have been ambiguous in its wording to a respondent ("this business is challenged by new ideas"). It is unclear whether "the business" is adversely challenged or if "the business" is inspired to conquer the challenge. Based on

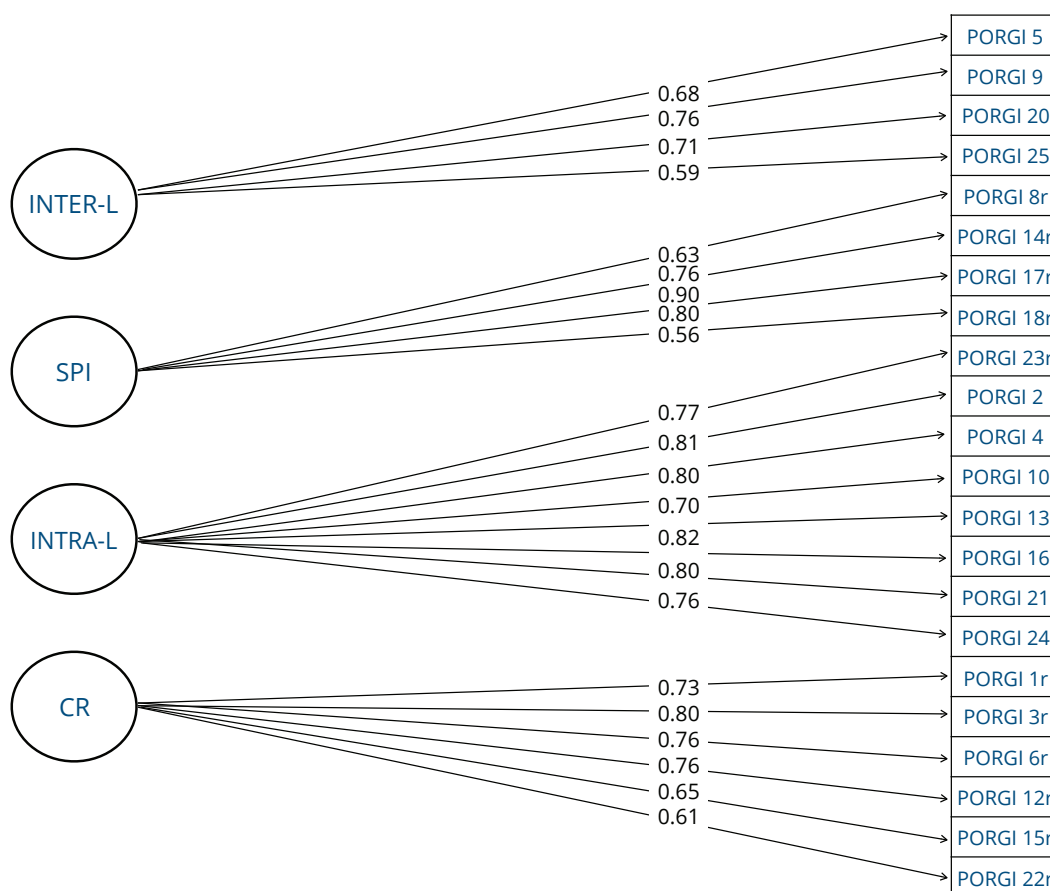
the wording of item 10 (“this business is receptive to new ideas”), item 11 indicated “challenged” in the adverse sense. Item 11 was recommended for removal from this instrument. Item 19 cross-loaded at factor 3 (0.46) and factor 4 (0.40); the content of the item “good communication is maintained between supervisors and employees in this business” was theoretically ill-suited to the instrument and recommended for removal. Item 9 loaded highest at factor 1 at -0.53 and was worded as “this business is considered one of the leaders in the industry”. While item 9 loaded highest at factor 1 (-0.53), it was better suited to the theory of factor 4, which scored 0.32.

The reflective indicator loading analysis was repeated and indicated in Figure 46, based on four factors with revised correlation between items and descriptive factors:

- intra-leadership: items 2, 4, 9, 10, 13, 16, 21, 24
- change resistance: items 1, 3, 6, 8, 12, 15, 22
- slow-paced innovation: items 14, 17, 18, 23
- inter-leadership: items 5, 20 and 25

Figure 46

Perceived Organisational Innovativeness (PORGI) Model With Four-Factors



As indicated in Figure 46, the PORGI measurement model consisted of four factors: (1) inter-leadership (INTER-L); (2) change resistance (CR); (3) intra-leadership (INTRA-L); and (4) slow-paced innovation (SPI). While the reflective indicator loadings improved from the one-factor model to the four-factor model, at an ideal threshold of ≥ 0.708 , some of the items still loaded slightly too low.

The internal consistency reliability was analysed for PORGI Model 1 and PORGI Model 2, by assessing composite reliability loading and Cronbach's alpha, indicated in Table 44.

Table 44

Internal Consistency Reliability for PORGI Model 1 and PORGI Model 2 (n=222)

	PORGI Model 1		PORGI Model 2	
	Cronbach's alpha	Composite reliability	Cronbach's alpha	Composite reliability
Inter-leadership (INTER-L)	n/a	n/a	0.78	0.79
Change resistance (CR)	n/a	n/a	0.87	0.87
Intra-leadership (INTRA-L)	n/a	n/a	0.92	0.92
Slow-paced innovation (SPI)	n/a	n/a	0.85	0.86
Overall	0.93	0.93	0.87	0.87

The Cronbach's alpha analysis and composite reliability for the PORGI Model 1 were assessed to be at acceptable loadings. With ideal composite reliability between 0.70 and 0.90, the items in PORGI Model 2 indicated acceptable loadings.

The convergent validity, commonly measured as average variance extracted (AVE), is presented in Table 45.

Table 45

Average Variance Extracted (AVE) for PORGI Model 1 and PORGI Model 2 (n=222)

	PORGI Model 1	PORGI Model 2
Inter-leadership (INTER-L)	n/a	0.48
Change resistance (CR)	n/a	0.52
Intra-leadership (INTRA-L)	n/a	0.62
Slow-paced innovation (SPI)	n/a	0.56
Overall	0.38	0.64

The acceptable loading for average variance extracted (AVE) was ≥ 0.50 (Othman et al., 2014). In PORGI Model 1, the overall AVE presented a loading of 0.38, which was significantly below the 0.50 threshold.

All AVE loadings in PORGI Model 2 loaded above the 0.50 threshold except for inter-leaderships (INTER-L) that loaded at 0.48.

Table 46 provides a summary of the key fit indices for PORGI Model 1 and PORGI Model 2.

Table 46

Comparison of Fit Indices for One-Factor PORGI Model 1 and Four-Factor PORGI Model 2 (n=222)

	Goodness-of-fit PORGI Model 1	Goodness-of-fit PORGI Model 2
Absolute fit		
Chi-square (p-value)	1352.21 (0.000)	471.91 (0.000)
df	275	203
Comparative fit		
NFI	0.640	0.890
CFI	0.667	0.906
Other		
GFI	0.543	0.830
AGFI	0.460	0.789
SRMR	0.120	0.060
RMSEA	0.133	0.077

The chi-square ratio of PORGI Model 1 was previously reported at 4.917, which was considered statistically insufficient. The PORGI Model 2 chi-square ratio reported at 2.324, which was below 3.0 and therefore considered a good fit. The comparison between PORGI Model 1 and PORGI Model 2 fit indices indicated that PORGI Model 2 reported more appropriate fit indices, while some of the fit indices still reported lower than ideal fit index values. The NFI, GFI and AGFI values each indicated a mediocre fit, while the chi-square ratio, CFI, SRMR and RMSEA values reflected acceptable fit values.

Table 47 indicates the discriminant validity loadings for PORGI Model 2.

Table 47*Discriminant Validity Expressed in Heterotrait-Monotrait Ratio Values for PORGI Model 2*

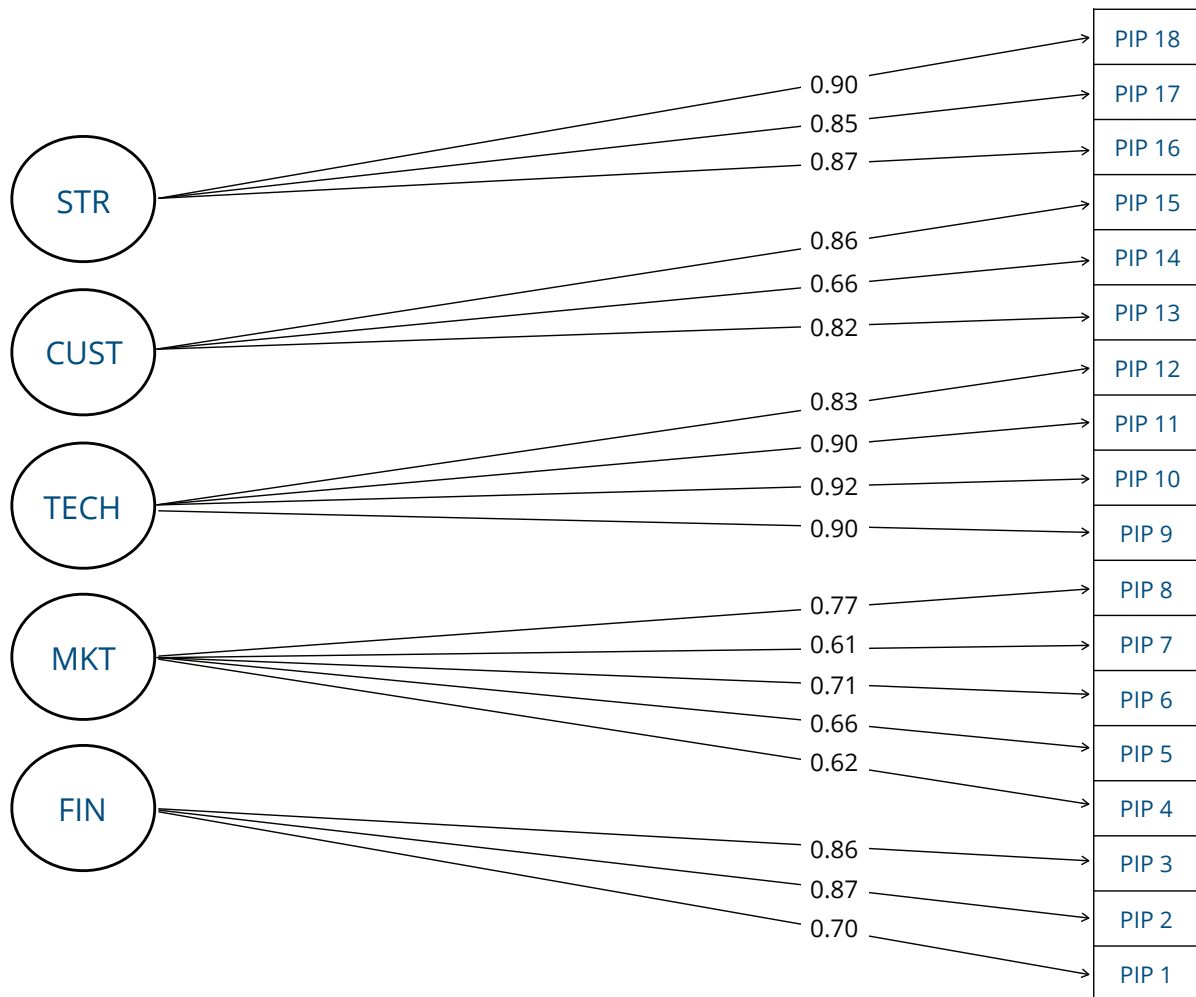
Discriminant validity: Heterotrait-monotrait ration					
From	To	Ratio	95% lower	95% upper	Discriminate
Perceived organisational innovativeness	External retailer-supplier exchange	0.68	0.57	0.76	yes
Perceived organisational innovativeness	Internal leader-member exchange	0.17	0.09	0.28	yes
Perceived organisational innovativeness	Product innovation performance	0.44	0.31	0.52	yes
Perceived organisational innovativeness	Self-leadership	0.25	0.14	0.43	yes
Perceived organisational innovativeness	Transformational leadership	0.25	0.13	0.37	yes

Table 47 indicates that the perceived organisational innovativeness (PORGI) Model 2 was sufficiently distinctive with none of the ratio loadings close to the 0.80 threshold. While the HTMT ratio between the PORGI model and RSX model was curiously high, it remained well below the 0.80 threshold.

The four-factor PORGI Model 2 was considered a statistically sound instrument to measure perceived organisational innovativeness for this sample: (1) reflective indicator loadings; (2) internal consistency reliability; (3) convergent validity; (4) goodness-of-fit indices; and (5) discriminant validity loadings.

5.4.5 Product innovation performance (PIP)

The development of product innovation performance (PIP) by Hannachi (2015) indicated five strong factors, namely customer (CUS), finance (FIN), marketing (MAR), strategy (STR) and technology (TEC). Responses to the PIP scale were subjected to a five-factor reflective indicator loading analysis according to the model proposed by Hannachi (2015), as indicated in Figure 47.

Figure 47*Product Innovation Performance (PIP) Five-Factor Model*

As indicated by Figure 47, the PIP consisted of five factors, all of which were measured through between three to five items for each factor. All factor loadings were above 0.708, with the exception of item-PIP4 (0.62), item-PIP14 (0.66), item-PIP5 (0.66) and item-PIP7 (0.61) that loaded below the ideal threshold of 0.708. However, none of these were close to the 0.3 unacceptable threshold.

The internal consistency reliability was analysed for PIP by assessing composite reliability loading and Cronbach's alpha, indicated in Table 48.

Table 48*Internal Consistency Reliability for the Five-Factor PIP Model (n=222)*

	PIP	
	Cronbach's alpha	Composite reliability
Finance (FIN)	0.85	0.85
Marketing (MKT)	0.81	0.81
Technology (TECH)	0.94	0.94
Customer (CUST)	0.82	0.83
Strategy (STR)	0.90	0.90

The Cronbach's alpha and composite reliability analysis in Table 48 indicate loadings of between 0.81 and 0.94, which is in the acceptable range of between 0.70 and 0.90 (Hair et al., 2019). While a Cronbach's alpha of 0.90 or more was considered an ideal internal consistency reliability, a composite reliability score of 0.95 or higher was statistically problematic since it indicated redundancy issues, which reduced the construct validity (Diamantopoulos et al., 2012). The factor TECH (Technology) loaded close to 0.95 at 0.94, which rendered this factor relatively close to the redundancy outer limit.

The convergent validity, commonly measured as average variance extracted (AVE), is presented in Table 49.

Table 49*Average Variance Extracted (AVE) for the Five-Factor PIP Model (n=222)*

	PIP
Finance (FIN)	0.66
Marketing (MKT)	0.46
Technology (TECH)	0.79
Customer (CUST)	0.61
Strategy (STR)	0.76

The acceptable loading for average variance extracted (AVE) was ≥ 0.50 (Fornell & Larcker, 1981). As indicated in Table 49, four of the five factors exceeded the threshold value of 0.50, except the AVE of "Marketing" (MKT) which was equal to 0.46. According to Ping (2009), when an AVE loading was slightly below 0.50, it may still have been considered acceptable provided the same dimension did not produce discriminant validity irregularities.

Table 50 provides a summary of the key fit indices for the five-factor PIP model.

Table 50*Comparison of Fit Indices for the Five-Factor PIP Model (n=222)*

	Goodness-of-fit PIP
Absolute fit	
Chi-square (p-value)	365.57 (0.000)
df	125
Comparative fit	
NFI	0.900
CFI	0.922
Other	
GFI	0.849
AGFI	0.793
SRMR	0.050
RMSEA	0.093

In the PIP-model, a chi-square of 365.57 (degrees of freedom (*df*) = 125, $p < 0.000$) was revealed in the reflective measurement model assessment. The ratio of chi-square to *df*, e.g. $365.57 / 125 = 2.924$ was considered good, with a value of < 3 indicating an overall good fit (Schreiber et al., 2006). A chi-square value that was closer to zero indicated a better fit, although any value < 3 was considered good (Schreiber et al., 2006). The other fit indices, namely NFI, CFI, GFI and AGFI, were below the 0.95 ideal threshold. In addition, an RMSEA of 0.93 was well above the 0.06 to 0.08 confidence interval (Schreiber et al., 2006). Overall, the fit indices for the PIP model were not at ideal levels, indicating that the fit between the model and the observed data was mediocre.

Table 51 indicates the discriminant validity loadings for the PIP model.

Table 51*Discriminant Validity Expressed in Heterotrait-Monotrait Ratio Values for the PIP Model*

From	To	Discriminant validity: Heterotrait-monotrait ratio				Discriminate
		Ratio	95% lower	95% upper		
Product innovation performance	External retailer-supplier exchange	0.48	0.33	0.59	yes	
Product innovation performance	Internal leader-member exchange	0.17	0.08	0.3	yes	
Product innovation performance	Perceived organisational innovativeness	0.44	0.31	0.52	yes	
Product innovation performance	Self-leadership	0.24	0.11	0.40	yes	
Product innovation performance	Transformational leadership	0.26	0.13	0.41	yes	

The product innovation performance (PIP) model was sufficiently distinctive with none of the ratio loadings close to the 0.80 threshold. While the perceived organisational innovativeness (PORGI) model was often utilised as a measure to substitute innovation performance (Eisele, 2017), the HTMT analysis confirmed that these two constructs were empirically distinct.

The five-factor PIP model was considered a statistically sound instrument to measure product innovation performance for this sample, based on: (1) reflective indicator loadings; (2) internal consistency reliability; (3) convergent validity; (4) goodness-of-fit indices; and (5) discriminant validity loadings.

5.4.6 Reflective indicator loading summary

The reflective indicator loadings were also referred to as outer loadings, and these indicated the construct's degree of reliability, with a loading of ≥ 0.708 considered ideal. Each individual model's indicator loading analysis was completed as an initial outer-model assessment, with a summary of all the factor loadings indicated in Table 52.

Table 52*Reflective Indicator Loading Summary for All Six Constructs*

Reflective indicator loadings						
Manifest variable	Latent variable	Loading	95% lower	95% upper	Significant from CI	p-value from t-test
Articulate vision (AV)	Transformational leadership	0.89	0.86	0.92	yes	<0.01
Contingent reward (CR)	Transformational leadership	0.32	0.17	0.48	yes	<0.01
Fostering the acceptance of group goals (FGG)	Transformational leadership	0.90	0.87	0.93	yes	<0.01
High performance expectations (HPE)	Transformational leadership	0.74	0.66	0.80	yes	<0.01
Intellectual stimulation (IS)	Transformational leadership	0.84	0.79	0.88	yes	<0.01
Providing the appropriate model (PICS)	Transformational leadership	0.90	0.87	0.93	yes	<0.01
Providing individual consideration and support (PAM)	Transformational leadership	0.83	0.78	0.86	yes	<0.01
Behavioural strategies (BAV)	Self-leadership	0.81	0.75	0.85	yes	<0.01
Cognitive strategies (CC)	Self-leadership	0.81	0.75	0.86	yes	<0.01
Natural rewards (TM)	Self-leadership	0.77	0.72	0.82	yes	<0.01
LMX 1	Internal leader-member exchange	0.83	0.78	0.88	yes	<0.01
LMX 2	Internal leader-member exchange	0.82	0.77	0.87	yes	<0.01
LMX 3	Internal leader-member exchange	0.86	0.81	0.89	yes	<0.01
LMX 4	Internal leader-member exchange	0.83	0.78	0.88	yes	<0.01
LMX 5	Internal leader-member exchange	0.84	0.80	0.88	yes	<0.01
LMX 6	Internal leader-member exchange	0.85	0.79	0.89	yes	<0.01
LMX 7	Internal leader-member exchange	0.88	0.84	0.91	yes	<0.01
RSX 1	External retailer-supplier exchange	0.76	0.68	0.81	yes	<0.01
RSX 2	External retailer-supplier exchange	0.80	0.74	0.84	yes	<0.01

Reflective indicator loadings						
Manifest variable	Latent variable	Loading	95% lower	95% upper	Significant from CI	p-value from t-test
RSX 3	External retailer-supplier exchange	0.84	0.79	0.87	yes	<0.01
RSX 4	External retailer-supplier exchange	0.86	0.82	0.90	yes	<0.01
RSX 5	External retailer-supplier exchange	0.77	0.70	0.83	yes	<0.01
RSX 6	External retailer-supplier exchange	0.77	0.70	0.83	yes	<0.01
RSX 7	External retailer-supplier exchange	0.79	0.72	0.85	yes	<0.01
Change resistance (CR)	Perceived organisational innovativeness	0.77	0.69	0.84	yes	<0.01
Inter-leadership (INTER-L)	Perceived organisational innovativeness	0.75	0.66	0.82	yes	<0.01
Intra-leadership (INTRA-L)	Perceived organisational innovativeness	0.86	0.81	0.90	yes	<0.01
Slow-paced innovation (SPI)	Perceived organisational innovativeness	0.80	0.74	0.85	yes	<0.01
Customer (CUST)	Product innovation performance	0.84	0.79	0.89	yes	<0.01
Finance (FIN)	Product innovation performance	0.78	0.72	0.84	yes	<0.01
Marketing (MKT)	Product innovation performance	0.87	0.82	0.90	yes	<0.01
Strategy (STR)	Product innovation performance	0.87	0.83	0.91	yes	<0.01
Technology (TECH)	Product innovation performance	0.90	0.86	0.93	yes	<0.01

As indicated in Table 52, the initial screening of each model's factors was analysed and confirmed to be above the threshold of 0.708, with the exception of TLI's 'contingent reward' factor. The TLI factor loading of contingent reward is highlighted in yellow in Table 52. According to Costello and Osborne (2005), indicator loadings at 0.30 or below required further review or possibly the removal of an item of factor. While contingent reward reflected a loading of 0.32, it was retained in the overall model since it was above the bounds of statistical criterion.

5.4.7 Composite reliability summary

Composite reliability measured the internal consistency of items belonging to a scale. Internal reliability consistency analysis was conducted in order to "explain relations among a large set of

observed variables using a small number of unobserved, or latent, variables called factors” (Flora & Flake, 2017, p. 78). Internal reliability consistency analysis was typically utilised when established measurement scales were present, in order to specifically confirm that the selected instruments sufficiently measured the intended constructs (Flora & Flake, 2017). The overview of the internal consistency of each latent variable report, in Table 53, was within the acceptable range.

Table 53

Composite Reliability Summary for All Six Constructs

Composite reliability	Loading	95% lower	95% upper
Transformational leadership (TLI)	0.92	0.91	0.93
Self-leadership (ASLQ)	0.84	0.80	0.87
Internal leader-member exchange (LMX)	0.95	0.93	0.96
External retailer-supplier exchange (RSX)	0.92	0.90	0.94
Perceived organisational innovativeness (PORGI)	0.87	0.83	0.91
Product innovation performance (PIP)	0.93	0.91	0.95

The overall composite reliability is indicated in Table 53 and all the construct loadings were within the acceptable statistical purview. Composite reliability loadings close to the 0.90 to 0.95 interval indicated high levels of reliability, with loadings of above 0.95 to be considered for redundancy. In the case of internal leader-member exchange, it was loaded at 0.95, was highlighted in yellow in Table 53 and was retained in the model with a degree of caution.

5.4.8 Convergent validity summary

Convergent validity was established when there was a positive match between measures that should be related and were in reality related (Fornell & Larcker, 1985). The convergent validity was commonly measured as average variance extracted (AVE) in the form of a correlation coefficient, with an acceptable loading of ≥ 0.5 (Hair et al., 2006; Othman et al., 2014). AVE reported the amount of variance captured by a construct in relation to the amount of variance due to measurement error (Ab Hamid et al., 2017). The AVE summary for all six constructs is outlined in Table 54.

Table 54*Average Variance Extracted for All Six Constructs*

AVE	Loading	95% lower	95% upper
Transformational leadership (TLI)	0.64	0.60	0.68
Self-leadership (ASLQ)	0.64	0.57	0.70
Internal leader-member exchange (LMX)	0.71	0.66	0.76
External retailer-supplier exchange (RSX)	0.64	0.57	0.70
Perceived organisational innovativeness (PORGI)	0.64	0.55	0.72
Product innovation performance (PIP)	0.73	0.67	0.78

The AVE needed to be above 0.50 to indicate acceptable variance (Hair et al., 2006; Othman et al., 2014). All six of the constructs were above the minimum loading of AVE > 0.50, indicating that more than half of the indicator variance was included in the construct score (Hair et al., 2017).

5.4.9 Discriminant validity summary

Discriminant validity indicated that the constructs in the model were empirically unique and well distinguished from each other (Hair et al., 2017; Hussain et al., 2018). A heterotrait-monotrait ratiion (HTMT) was applied to assess the discriminant validity between the constructs (Kline, 2005). The closer the HTMT value was to 1, the more similar the constructs were, and therefore closer to redundancy (Ab Hamid et al., 2017). In cases where concepts were quite similar, a HTMT value of < 0.90 should have been achieved (Henseler et al., 2015). Table 55 indicates the HTMT values with potential aspects of concern highlighted in yellow.

Table 55*Discriminant Validity Expressed in Heterotrait-Monotrait Ration Values for Six Constructs*

Discriminant validity: Heterotrait-monotrait ratiion					
From	To	Ratio	95% lower	95% upper	Discri- minate
Internal leader-member exchange (LMX)	External retailer-supplier exchange (RSX)	0.23	0.11	0.36	yes
Perceived organisational innovativeness (PORGI)	External retailer-supplier exchange (RSX)	0.68	0.57	0.76	yes
Perceived organisational innovativeness (PORGI)	Internal leader-member exchange (LMX)	0.17	0.09	0.28	yes

Discriminant validity: Heterotrait-monotrait rations					
From	To	Ratio	95% lower	95% upper	Discriminate
Product innovation performance (PIP)	External retailer-supplier exchange (RSX)	0.48	0.33	0.59	yes
Product innovation performance (PIP)	Internal leader-member exchange (LMX)	0.17	0.08	0.3	yes
Product innovation performance (PIP)	Perceived organisational innovativeness (PORGI)	0.44	0.31	0.52	yes
Self-leadership (ASLQ)	External retailer-supplier exchange (RSX)	0.18	0.08	0.31	yes
Self-leadership (ASLQ)	Internal leader-member exchange (LMX)	0.15	0.06	0.23	yes
Self-leadership (ASLQ)	Perceived organisational innovativeness (PORGI)	0.25	0.14	0.43	yes
Self-leadership (ASLQ)	Product innovation performance (PIP)	0.24	0.11	0.40	yes
Transformational leadership (TLI)	External retailer-supplier exchange (RSX)	0.34	0.21	0.48	yes
Transformational leadership (TLI)	Internal leader-member exchange (LMX)	0.89	0.83	0.94	yes
Transformational leadership (TLI)	Perceived organisational innovativeness (PORGI)	0.25	0.13	0.37	yes
Transformational leadership (TLI)	Product innovation performance (PIP)	0.26	0.13	0.41	yes
Transformational leadership (TLI)	Self-leadership (ASLQ)	0.17	0.07	0.25	yes

The constructs all reported to be distinctively unique, as indicated in Table 55, with the exception of transformational leadership (TLI) and internal leader-member exchange (LMX) with a loading of 0.89, considered close to the 0.90 threshold (highlighted in yellow in Table 55). According to Henseler et al. (2015), in cases where concepts were very similar, the threshold could increase to 0.90 without compromising discriminant validity. The score of 0.89 was contextualised since TLI and LMX constructs were similar in 'end-states' but not in 'modes of conduct'. For example, the end-state of followers in a transformational leadership context were very similar to the end-state of high leader-member exchange quality. However, the mode in which a transformational leader achieved this end-state in a follower was sufficiently different from the mode in which a leader with high leader-member exchange might achieve the same end-state. Leaders with high levels of transformational leadership

would typically increase their follower level of empowerment (Cho & Dansereau, 2010). Likewise, the effect of high-quality leader-member exchange was typically also high levels of follower-empowerment (Hill et al., 2014). The manner in which a transformational leader awakens higher levels of empowerment was different from the manner in which this occurs with high-quality leader-member exchange relationships (Krishnan, 2005).

5.4.10 Fit indices summary

The inclusion of fit indices assessment in the PLS-SEM outer-model assessment, while considered questionable by some scholars (Hair et al., 2019; Hair et al., 2020; Sarstedt et al., 2017), acknowledged the association of fit indices assessment as part of traditional SEM-analysis (Schreiber et al., 2006). Since the goodness-of-fit assessment criteria was fundamentally matched with CB-SEM tenets (Hair et al., 2020; Sarstedt et al., 2017), the inclusion of fit indices in the PLS-SEM outer-model assessment was appropriately contextualised. While fit index analysis was fundamental to CB-SEM assessment (Hair et al., 2020), it was not deemed fundamental in a PLS-SEM analysis context (Schreiber et al., 2006).

The values of fit indices for each construct is summarised in Table 56.

Table 56

Comparative Fit Indices for Six Constructs

	TLI (Model 3)	ASLQ (Model 1)	LMX	RSX	PORGI (Model 2)	PIP
Absolute fit						
Chi-square (p-value)	391.65 (0.000)	41.99 (0.013)	222.95 (0.000)	222.95 (0.000)	471.91 (0.000)	365.57 (0.000)
df	188	24	76	76	203	125
Chi-square/df Ratio	2.634	1.56	2.93	2.93	2.324	2.924
Comparative fit						
NFI	0.960	0.970	0.920*	0.920*	0.890**	0.900*
CFI	0.965	0.978	0.930*	0.930*	0.906*	0.922*
Other						
GFI	0.867**	0.962	0.871**	0.871**	0.830**	0.849**
AGFI	0.821**	0.929*	0.822**	0.822**	0.789***	0.793***
SRMR	0.030	0.050	0.050	0.050	0.060	0.050
RMSEA	0.070	0.058	0.093	0.093	0.077	0.093

Caution was applied in the assessment of the relative/normed chi-square ratio (χ^2/df) of Wheaton et al. (1977), since the sample size of this research study was considered relatively small. All six constructs reported acceptable chi-squared ratios, where 2.0 to 3.0 was considered ideal. The NFI, CFI, GFI and AGFI loadings should all have been above 0.95 for statistical acceptance. All the constructs reported to fall short of this ideal threshold, ranging from small deviation (denoted with a single asterisk "*" in Table 56) to medium deviation (denoted with a double asterisk "**" in Table 56), to significant deviation (denoted with a triple asterisk "***" in Table 56). The significant deviations in GFI and AGFI were linked to large numbers in degrees of freedom for the same construct, which are known to occur in smaller sample sizes (Hooper et al., 2008). While ideal at ≥ 0.95 , the normed-fit index (NFI) was considered acceptable at 0.90, thereby rendering almost all constructs at acceptable for NFI. The comparative fit index (CFI) was a revised version of the NFI (Hooper et al., 2008) and adjusted for smaller sample size (Byrne, 1998). The CFI values should ideally have been at 0.95 or higher, however, above 0.90 was still at an acceptable level. In the case of the constructs of this model, all the constructs reflected values of >0.90 , with TLI and ASLQ reflecting excellent CFI values above 0.95. The standardised root mean square residual (SRMR) value was ideal at below 0.050, while <0.080 was still considered acceptable (Diamantopoulos & Siguaw, 2013). All the constructs reported SRMR values of ≤ 0.050 , except for PORGI value at 0.060. The root mean square error of approximation (RMSEA) values were considered one of the most indicative fit indices (Diamantopoulos & Siguaw, 2013). The cut-off value for a good fit RMSEA loading was < 0.08 , while 0.08 to 0.10 was considered mediocre (Hooper et al., 2008). The RMSEA values of LMX, RSX and PIP indicated mediocre fitting models. In consolidating fit indices for each reflective measurement model, and considering the contentious link between fit indices and PLS-SEM analysis (Hair et al., 2020), each of the constructs satisfied at least four of the seven fit indices.

5.4.11 Construct correlation summary

The constructs were assessed by means of a Pearson correlation, also known as the 'product moment correlation coefficient', and expressed as 'r' (Sedgwick, 2012). The Pearson correlation coefficient indicated the strength of a linear association between two variables, for example a positive correlation meant that when the one variable went up, the other followed suit (Emerson, 2015). The measurement of the Pearson correlation was on a scale of -1 through 0 to +1, with 1 considered complete or perfect correlation (Akoglu, 2018; Sedgwick, 2012), provided the p-value confirmed statistical significance (Akoglu, 2018). In order to review the dyadic correlations between constructs, the Pearson correlation coefficients were calculated and are presented in Table 57.

Table 57*Construct Correlations for Six Constructs*

Pearson correlation coefficient				
Variable 1	Variable 2	Pearson	Pearson p-value	Cases
External retailer-supplier exchange (RSX)	Internal leader-member exchange (LMX)	0.21	<0.01	222
External retailer-supplier exchange (RSX)	Perceived organisational innovativeness (PORGI)	0.63	<0.01	222
External retailer-supplier exchange (RSX)	Product innovation performance (PIP)	0.44	<0.01	222
External retailer-supplier exchange (RSX)	Self-leadership (ASLQ)	0.18	<0.01	222
External retailer-supplier exchange (RSX)	Transformational leadership (TLI)	0.30	<0.01	222
Internal leader-member exchange (LMX)	Perceived organisational innovativeness (PORGI)	0.14	0.04	222
Internal leader-member exchange (LMX)	Product innovation performance (PIP)	0.15	0.02	222
Internal leader-member exchange (LMX)	Self-leadership (ASLQ)	0.16	0.02	222
Internal leader-member exchange (LMX)	Transformational leadership (TLI)	0.82	<0.01	222
Perceived organisational innovativeness (PORGI)	Product innovation performance (PIP)	0.49	<0.01	222
Perceived organisational innovativeness (PORGI)	Self-leadership (ASLQ)	0.14	0.03	222
Perceived organisational innovativeness (PORGI)	Transformational leadership (TLI)	0.22	<0.01	222
Product innovation performance (PIP)	Self-leadership (ASLQ)	0.16	0.01	222
Product innovation performance (PIP)	Transformational leadership (TLI)	0.20	<0.01	222
Self-leadership (ASLQ)	Transformational leadership (TLI)	0.17	0.01	222

As indicated in Table 57, all the variables were positively correlated, with the following dyads considered strongly correlated with high statistical significance: transformational leadership (TLI) and

internal leader-member exchange (LMX) constructs indicating high positive linear correlation ($r = 0.82$) with high statistical significance (<0.01). Perceived organisational innovativeness (PORGI) and external retailer-supplier exchange (RSX) constructs indicate a moderate to strong degree of correlation ($r = 0.63$) with high statistical significance (<0.01). Perceived organisational innovativeness (PORGI) and product innovation performance (PIP) constructs indicated a moderate degree of correlation ($r = 0.49$) with high statistical significance (<0.01). Product innovation performance (PIP) and external retailer-supplier exchange (RSX) constructs indicated a moderate degree of correlation ($r = 0.44$) with high statistical significance (<0.01). Table 57 indicates a weak correlation between transformational leadership (TLI) and self-leadership (ASLQ) at $r = 0.17$ ($p=0.01$), and internal leader-member exchange (LMX) and product innovation performance (PIP) at $r = 0.15$ ($p=0.02$). Since LMX theory asserted a high correlation between leader-member exchange quality and innovativeness (Altunoglu & Gürel, 2015; Graen & Scandura, 1987), the assessment in this research study's correlation findings with low correlation between LMX and PIP, as well as LMX and PORGI, was noted for the disparity. None of the values indicated a negative correlation between variables.

Each of the reflective measurement models satisfied outer-model assessment criteria, ranging from ideal to acceptable, which enabled the inner-model assessment phase to follow.

5.5 INNER-MODEL ASSESSMENT

The inner model, also referred to as the structural model, represented the structural paths between the constructs (Hair et al., 2017). Inner-model reliability statistics involved the observation of a model's predictive relevancy, as well as the relationships between constructs, therefore the description of relationships among the latent variables that made up the model (Hair et al., 2014). The primary analysis method was according to PLS-SEM methodology; however, as part of the final assessment phase, the CB-SEM methodology was utilised as comparison.

5.5.1 Multicollinearity

Collinearity is relevant when setting out two explanatory variables, and the term multicollinearity refers to two or more explanatory variables (Hair et al., 2014). Multicollinearity was assessed in line with Section 4.4.2.2 and the multicollinearity for the results of this research study is indicated in Table 58.

Table 58*Multicollinearity for Six Latent Variables in a Structural Model*

PLS-SEM: Multicollinearity					
	Self-leadership (ASLQ)	Internal leader-member exchange (LMX)	External retailer-supplier exchange (RSX)	Perceived organisational innovativeness (PORGI)	Product innovation performance (PIP)
Transformational leadership (TLI)	1	1.008	2.996	-	-
Self-leadership (ASLQ)	1.008	-	-	-	-
Internal leader-member exchange (LMX)	-	-	2.996	1	1.046
External retailer-supplier exchange (RSX)	-	-	-	-	1.545
Perceived organisational innovativeness (PORGI)	-	-	-	-	1.512

Multicollinearity was evaluated through variance inflation factor (VIF) calculations, where VIF was ideally close to 3.0 or lower to indicate that multicollinearity was unlikely to be problematic (Hair et al., 2020). In cases where VIF values were 5 or more, it meant that the path coefficients were problematic, that there were too many arrows in the model, and that some of the arrows or paths between constructs had to be removed (Kline, 2005). The removal of structural equation paths between constructs that indicated high multicollinearity was imperative to avoid redundancy (Yoo et al., 2014). The VIF values in Table 58 indicated that none of the constructs indicated multicollinearity complications. Close to perfect linearity existed between transformational leadership and self-leadership (=1) and perceived organisational innovativeness and internal leader-member exchange (=1). The linearity between transformational leadership and both internal leader-member exchange and external retailer-supplier exchange was at 2.991, and was considered ideal (Yoo et al., 2014; Hair et al., 2020). Each path between each construct was therefore valid, with no redundancy complications, which signalled the next step in the inner-model assessment, namely examining the R² value of the endogenous constructs.

5.5.2 Coefficient of determination: measuring the value of R^2

The value of R^2 is also referred to as the ‘coefficient of determination’, and measures the model’s predictive accuracy (Hair et al., 2017). The coefficient of determination measures to what degree the endogenous constructs explains overall effect size and variance (Hussain et al., 2018). The higher the R^2 values, the better the construct is explained by the latent variables (Hair et al., 2019). According to Shmueli and Koppius (2011), the coefficient of determination is a measure of the model’s explanatory power. Table 59 outlines the coefficient of determination (R^2 values) for the six constructs of the conceptual model. Transformational leadership was excluded from the table below since it was considered an exogenous variable and its value was determined *outside* the model and imposed *on* the model and therefore could not be declared.

Table 59

Coefficient of Determination for Five Constructs

Coefficient of determination: Measuring the value of R^2		
	R square	R square adjusted
Transformational leadership (TLI)	n/a	n/a
Self-leadership (ASLQ)	0.01	0.00
Internal leader-member exchange (LMX)	0.67	0.66
External retailer-supplier exchange (RSX)	0.08	0.08
Perceived organisational innovativeness (PORGI)	0.02	0.02
Product innovation performance (PIP)	0.21	0.20

The R^2 values range from 0 to 1, with 0.75 considered substantial, 0.50 moderate and 0.25 weak (Hair et al., 2019). While these estimates were general criteria, the context was relevant, since 0.10 could be considered substantial in some scenarios (Raithel et al., 2012). Two aspects that influenced the quality of the coefficient of determination (R^2 values) included: (1) sample size; and (2) number of predictive constructs (Hair et al., 2020). Table 59 indicates that internal leader-member exchange (LMX) was substantially explained at 0.67, with product innovation performance weakly explained at an R^2 value of 0.21, and self-leadership and perceived organisational innovativeness poorly explained by the latent variables.

5.5.3 Path coefficients

Path coefficients assessed the relationships between the latent variables in the structural model and whether they were significant (Ringle & Sarstedt, 2016). The path coefficients were the relationships

between the latent variables in the structural model and a culmination of the statistical progression, measure in the strength of the paths and arrows between the constructs (Kline, 2005). The path coefficient scores are generally between -1 and 1; the closer to score is to 1, the stronger the path, and, therefore, the relationship between these two constructs (Hair et al., 2019). Table 60 illustrates the path coefficients for the conceptual model.

Table 60

Path Coefficients Between Six Latent Variables in a Structural Model

PLS-SEM: Path coefficients		Path coefficient	95% lower	95% upper	Significant from CI	p-value from T-test
Transformational leadership	Self-leadership	0.090	-0.07	0.23	no	0.25
Transformational leadership	Internal leader-member exchange	0.810	0.75	0.86	yes	<0.01
Transformational leadership	External retailer-supplier exchange	0.350	0.160	0.560	yes	<0.01
Self-leadership	Internal leader-member exchange	0.030	-0.050	0.120	no	0.46
Internal leader-member exchange	External retailer-supplier exchange	-0.080	-0.32	0.14	no	0.51
Internal leader-member exchange	Perceived organisational innovativeness	0.150	0.02	0.28	yes	0.02
Internal leader-member exchange	Product innovation performance	0.060	-0.070	0.170	no	0.36
Perceived organisational innovativeness	Product innovation performance	0.180	0.030	0.330	yes	0.02
External retailer-supplier exchange	Product innovation performance	0.310	0.140	0.470	yes	<0.01

The closer the value is to 1, the stronger the relationship is between two latent variables linked to this value. A value closer to 0 indicates no relationship, while values closer to -1 indicate a negative relationship. The p-values indicate the statistical significance of the path coefficient's value. Table 60 indicates that the strongest path coefficient existed from transformational leadership (TLI) to internal leader-member exchange (LMX) with a p-value of <0.01 indicating the high statistical significance of

the path. The second strongest path coefficient presented with a value of 0.350 ($p < 0.01$) from transformational leadership (TLI) to external retailer-supplier exchange (RSX). The path coefficient from external retailer-supplier exchange (RSX) to product innovation performance (PIP) was reflected at a value of 0.310 ($p < 0.01$), also indicating a strong relationship. The path coefficient from internal leader-member exchange (LMX) to external retailer-supplier exchange (RSX) reflected at a value of -0.080 ($p = 0.34$), which rendered the link between these two latent variables as insignificant with no relationship.

Figure 48 indicates the combination of coefficients of determination and path coefficients included in the conceptual model.

Figure 48

Conceptual Model (PLS-SEM Results)

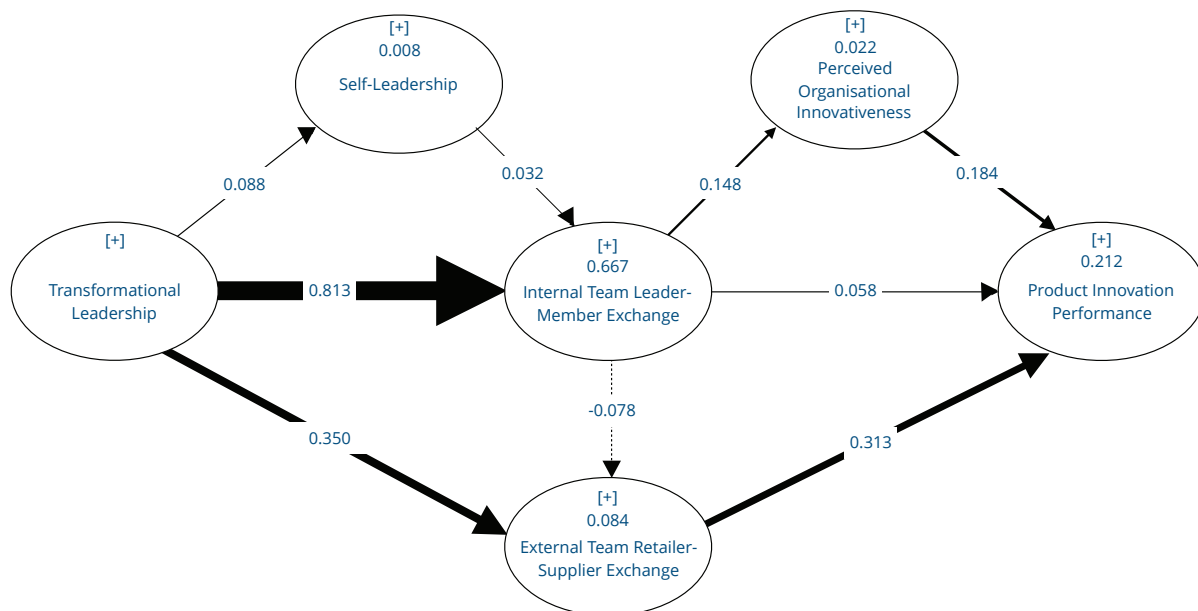


Figure 48 indicates, through the thickness of the lines and path coefficient value, the strength of relationships between specific constructs. For example, the link between transformational leadership (TLI) and internal leader-member exchange (LMX) was significant at 0.813 ($p < 0.01$). The statistically significant link between transformational leadership (TLI) and external retailer-supplier exchange (RSX) was evident at the path coefficient of 0.350 ($p < 0.01$).

5.5.4 PLS-SEM and CB-SEM comparison

While the PLS-SEM analysis was deemed most appropriate for the analysis of this particular quantitative data set, CB-SEM analysis was conducted as a cross-check mechanism to verify the PLS-SEM results to a large degree. The sample size of this research study's quantitative data set was more

suiting to PLS-SEM analysis. The results are presented in Figure 49, and by way of comparison in Table 61.

Table 61

Path Coefficients Between Six Latent Variables in a Structural Model

Path coefficients		PLS-SEM method		CB-SEM method	
From	To	Path coefficient	Significant	Path coefficient	Significant
Transformational leadership	Self-leadership	0.090	no	0.164	yes
Transformational leadership	Internal leader-member exchange	0.810	yes	0.867	yes
Transformational leadership	External retailer-supplier exchange	0.350	yes	0.562	yes
Self-leadership	Internal leader-member exchange	0.030	no	0.011	no
Internal leader-member exchange	External retailer-supplier exchange	-0.080	no	-0.252	no
Internal leader-member exchange	Perceived organisational innovativeness	0.150	yes	0.146	yes
Internal leader-member exchange	Product innovation performance	0.060	no	0.078	no
Perceived organisational innovativeness	Product innovation performance	0.180	yes	0.443	yes
External retailer-supplier exchange	Product innovation performance	0.310	yes	0.180	yes

Table 61 indicates similarities in path coefficient values when comparing the PLS-SEM analysis versus CB-SEM analysis. The path coefficient between TLI and LMX loaded at a high value with statistical significance for both methods (PLS-SEM: 0.810; CB-SEM: 0.867). In some cases, the CB-SEM analysis resulted in higher value to PLS-SEM analysis, for example from TLI to RSX (PLS-SEM: 0.350; CB-SEM: 0.562). Overall, the two types of analyses resulted in high levels of congruence, with the exception of a statistically significant path coefficient between TLI and ASLQ according to the CB-SEM method (0.164), and insignificance according to the PLS-SEM method (0.090) for the same latent variable relationship.

Figure 49
Conceptual Model (CB-SEM Results)

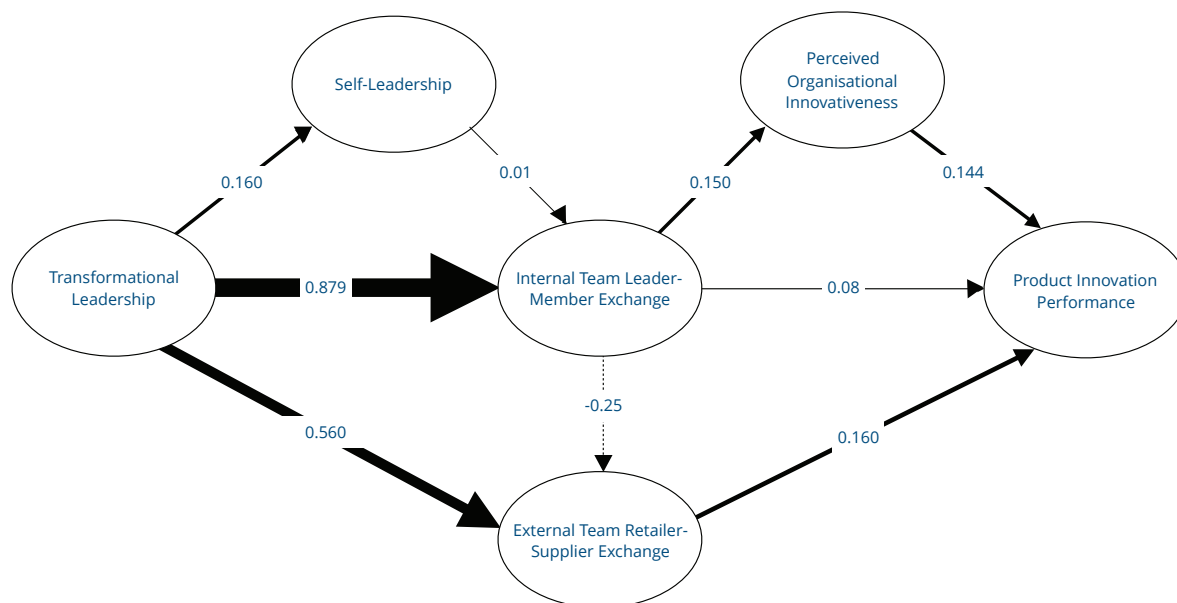


Figure 49 indicates overall similarities between the two SEM-models of analyses, acting as a cross-reference to further achieve inner-model assessment.

5.6 QUANTITATIVE ANALYSES SUMMARY

PLS-SEM analysis includes meaningful analysis - not only focusing on direct relationships but also mediation analysis between variables (Sarstedt et al., 2020). The mediating effect in the context of PLS-SEM analysis is defined as “a third variable that plays an intermediate role in the relationship between the independent and dependent variables” (Nitzl et al., 2016, p. 1851). Mediation is also defined as “the presence of an intervening variable or mechanism that transmits the effect of an antecedent variable on an outcome” (Aguinis et al., 2007, p. 666). In the conceptual model of this research study, there were four mediators, namely self-leadership, internal leader-member exchange, external retailer-supplier exchange, and perceived organisational innovativeness.

There are two different types of mediation effects, namely full and partial mediation (Albort-Morant et al., 2018). Full mediation is defined as a significant indirect relationship between two variables via a third variable, specifically in the absence of a significant and direct relationship (Sarstedt et al., 2020). In order that the mediation effect has statistical significance, each of the path coefficients on both sides of the potentially mediating variable must have a high value (Memon et al., 2018). Partial mediation occurs in one of two ways: (1) complementary partial mediation; and (2) competitive partial mediation (Albort-Morant et al., 2018). Complementary partial mediation occurs when the direct effect and indirect effect both point in the same direction and both load with significant path

coefficient values (Albort-Morant et al., 2018). Competitive partial mediation involves direct and indirect effects that occur in different arrow directions (Albort-Morant et al., 2018).

From the research questions in Chapter 3 and the conceptual model indicated in Figure 36, self-leadership was anticipated to play a mediation role between transformational leadership and internal leader-member exchange. The mediation effect between the transformational leadership (TLI), self-leadership (ASLQ) and internal leader-member exchange (LMX) is indicated in Figure 50.

Figure 50

Mediation Effect Between TLI and LMX, via ASLQ (PLS-SEM Results)

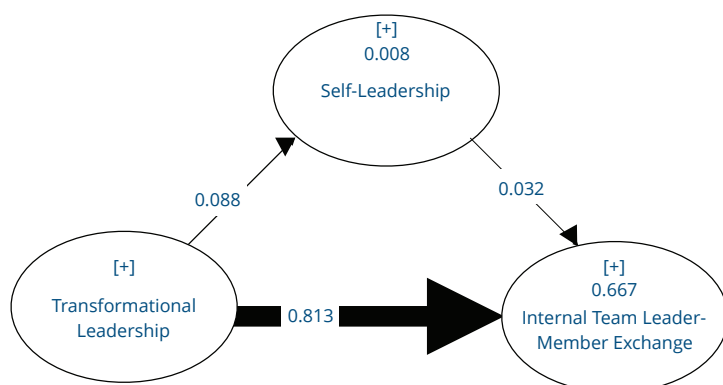


Figure 50 indicates that the strongest relationship between transformational leadership and internal leader-member exchange occurred directly, and with an insignificant mediation effect via self-leadership. One of the research questions in Chapter 3 enquired whether mediation between transformational leadership and internal leader-member exchange occurred via self-leadership. The quantitative data set did not support self-leadership as a mediating construct between transformational leadership and leader-member exchange.

Figure 38 indicates the direct mediation effect between transformational leadership (TLI) and external retailer-supplier exchange (RSX), and the indirect mediation effect via internal leader-member exchange (LMX).

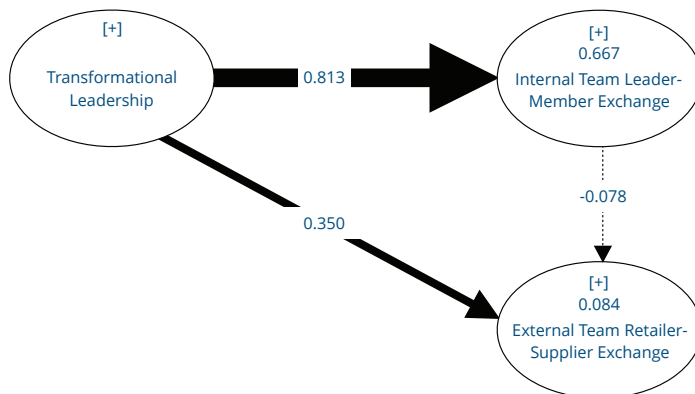
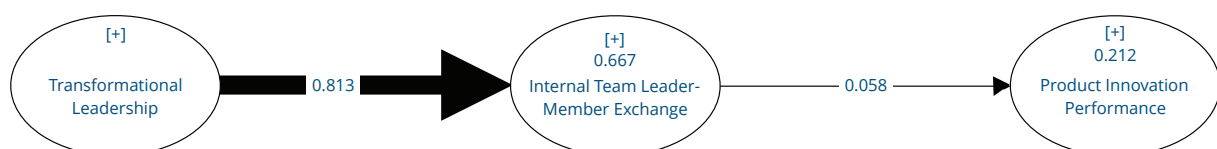
Figure 51*Mediation Effect Between TLI and RSX, via LMX (PLS-SEM Results)*

Figure 51 indicates two statistically significant high path coefficients between transformational leadership and internal leader-member exchange (0.813), as well as between transformational leadership and external retailer-supplier exchange (0.350). While a significant and high path coefficient between internal leader-member exchange and external retailer-supplier exchange was expected from the research questions in Chapter 3, the quantitative data did not support any mediation between transformational leadership and external retailer-supplier exchange via internal leader-member exchange. The quantitative results therefore indicate an insignificant relationship between the constructs of internal leader-member exchange and external retailer-supplier exchange, which (1) confirms internal leader-member exchange to play no mediation effect between transformational leadership and external retailer-supplier exchange, (2) an insignificant relationship between these two constructs.

Figure 52 indicates the indirect mediation effect between transformational leadership (TLI) and product innovation performance (PIP) by means of internal leader-member exchange (LMX).

Figure 52*Mediation Effect Between TLI and PIP, via LMX (PLS-SEM Results)*

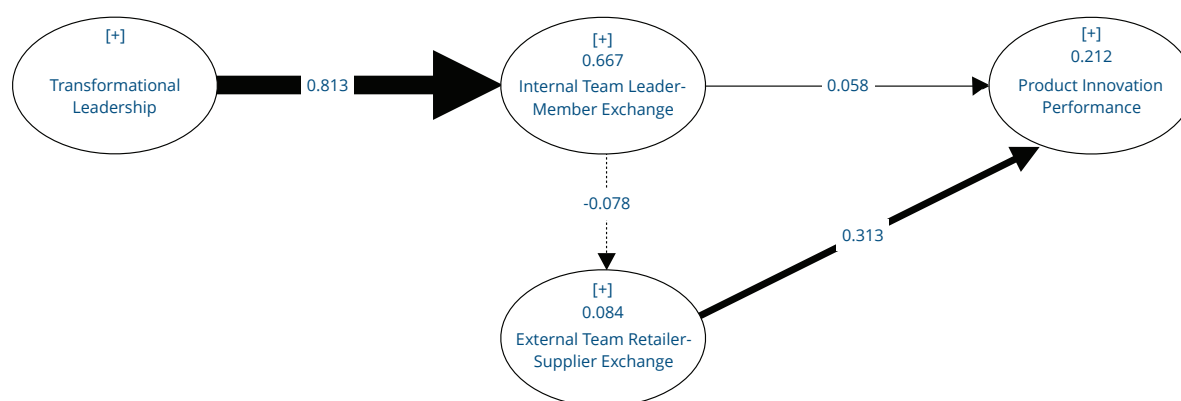
In Figure 52, the mediation effect between transformational leadership and product innovation performance via internal leader-member exchange indicated only a partial mediation effect. For complementary partial mediation to occur in this case both the path coefficient values required

loading at significant values. The path coefficient between leader-member exchange and product innovation performance loaded at 0.058, which is not considered statistically significant. The research question in Chapter 3 probed whether transformational leadership could positively affect product innovation performance via internal leader-member exchange. The quantitative data set, however, did not support a positive outcome to this question.

Figure 52 indicates the indirect mediation effect between transformational leadership (TLI) and product innovation performance (PIP) by means of internal leader-member exchange (LMX) and external retailer-supplier exchange (RSX).

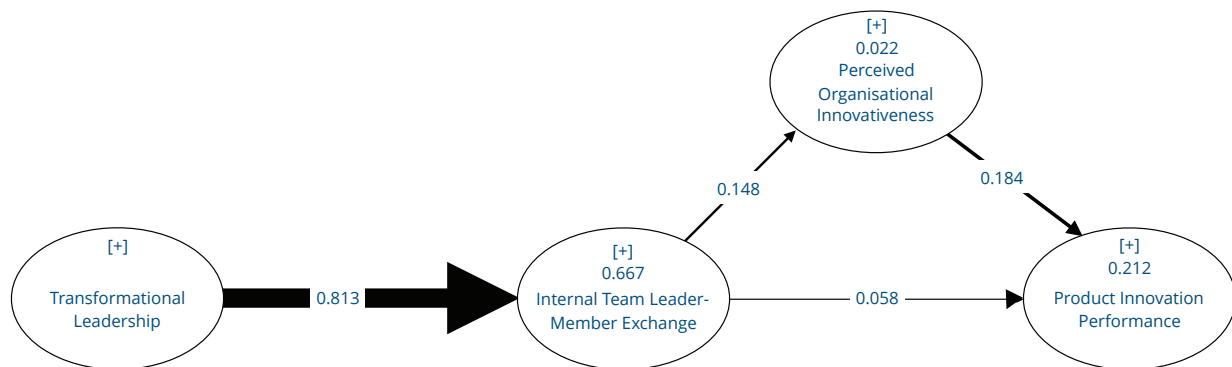
Figure 53

Mediation Effect Between TLI and PIP, via LMX and RSX (PLS-SEM Results)



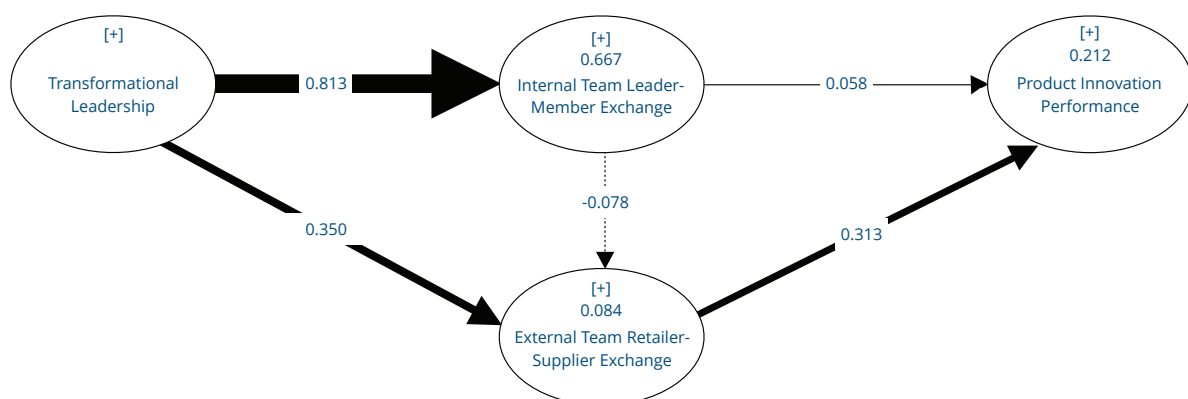
As indicated in Figure 53, no effect existed via internal leader-member exchange and external retailer-supplier exchange, since all path coefficients required high values at high significance, which was not the case with internal leader-member exchange and external retailer-supplier exchange. If the path coefficient between internal leader-member exchange and external retailer-supplier exchange was at a high value, then a potential case could have been established of significant full mediation via two variables. This, however, was not the case.

Figure 54 indicates the indirect mediation effect between transformational leadership (TLI) and product innovation performance (PIP) by means of internal leader-member exchange (LMX) and perceived organisational innovativeness (PORGI).

Figure 54*Mediation Effect Between TLI and PIP, via LMX and PORGI (PLS-SEM Results)*

Despite the path coefficients between internal leader-member exchange and product innovation performance reflecting at a low value (0.058) with low statistical significance ($p=0.34$), the indirect mediation via perceived organisational innovativeness may be relevant. The mediation effect may be at lower relative values (LMX \rightarrow PORGI: 0.148, $p=0.02$; PORGI \rightarrow PIP: 0.184, $p=0.02$), however there was completed mediation due to both path coefficients reflecting similar strength in values. The mediation role of perceived organisational innovativeness was therefore considered at medium level in value and significance.

Figure 55 indicates the indirect mediation effect between transformational leadership (TLI) and product innovation performance (PIP) by external retailer-supplier exchange (RSX).

Figure 55*Mediation Effect Between TLI and PIP, via RSX (PLS-SEM Results)*

Transformational leadership was linked to product innovation performance by means of a full and significant indirect mediation effect via external retailer-supplier exchange. The path coefficient between transformational leadership and external retailer-supplier exchange reflected at a value of

0.350 ($p < 0.01$) and the path coefficient between external retailer-supplier exchange and product innovation performance reflected at a value of 0.310 ($p < 0.01$), rendering this full and significant mediation.

The quantitative data, analysed in accordance with PLS-SEM and supplementary CB-SEM methodology involving several outer-model and inner-model assessments confirmed the conceptual model to be statistically significant. The quantitative data contributed three major findings:

1. A highly significant relationship exists between transformational leadership and internal leader-member exchange.
2. A marginally significant relationship exists between internal leader-member exchange and product innovation performance, mediated by perceived organisational innovativeness.
3. A highly significant relationship exists between transformational leadership and product innovation performance, mediated with high significance by external retailer-supplier exchange.

5.7 SUMMARY

Chapter 5 included the presentation of quantitative research findings along structural equation modelling criteria. In Chapter 6 the qualitative findings were reported according to sample subsets with integrated findings synthesised as a culmination in the chapter.

CHAPTER 6: QUALITATIVE RESEARCH FINDINGS

The qualitative data findings of this study were reported in three subsections for independent analysis, namely: (1) internal team members at a grocery retail organisation; (2) external team members employed by strategic suppliers to the retailer; and (3) innovation experts with specific grocery retail experience.

6.1 DESCRIPTIVE STATISTICS

The qualitative data were obtained from transcribed semi-structured interviews with three subsets of interviewees. The interview data groups and response rates are outlined in Table 62.

Table 62

Interview Response Rates

Data Groups	Interviews	
	Invited	Interviewed
Internal Team Members	30	21
- Internal Team Members	20	15
- Intermediary Team Members	10	6
External Team Members	20	19
Innovation Experts	30	20
Total	70	60

According to the recommendations by Bauman et al. (2012, p. 10), a large subject pool is advisable where there are subpopulations with “varied perceptions, roles, statuses, problems with, or decisions”. According to Charmaz (2012), a minimum of twelve interviews per homogenous group should be sought, while Bauman et al. (2012) confirmed 20 interviews per data type to be the aim. Table 62 confirms an achieved response rate of between 19 and 21, which indicates acceptable levels of data saturation for the three subsets of qualitative data.

6.1.1 Internal team retailer sample description

Semi-structured interviews were conducted with 21 individuals. The data from these 21 interviews were combined in order to form an internal team member data set. The interviews were imported into the ATLAS.ti software and re-named to reflect participant codes to ensure anonymity. Fifteen of the participants were team members employed by the retailer (labelled R1 to R15) and six of the participants formed part of an intermediary service provider (labelled I1 to I6). This intermediary service provider was involved in the commercial aspects and product development of approximately

a third of the product categories. These intermediary team members were intricately involved as representatives of the grocery retailer, and therefore it was more appropriate to group them with the internal team member data set. Table 63 provides a biographical description of the internal team interviewees, regarding duration in employ, exposure to suppliers, areas of expertise, and how these individuals correspond with the seven innovation clusters.

Table 63*Biographical Sample Description of Internal Team Interviewees*

Participant	Duration at organisation	Total supplier exposure	Area of expertise	Level of seniority	Innovation cluster involvement
R1	5 years	8 suppliers	Food Technologist	Middle	Cluster 1,6
R2 *	6 years	15 suppliers	Senior Food Technologist	Senior	Cluster 5,6
R3	2 years	8 suppliers	Product Developer	Middle	Cluster 5,6,7
R4	2 years	10 suppliers	Product Developer	Middle	Cluster 4,6
R5	1 year	11 suppliers	Junior Food Technologist	Junior	Cluster 4,6
R6	7 years	26 suppliers	Product Developer	Middle	Cluster 2
R7	11 years	17 suppliers	Commercial Buyer	Middle	Cluster 2,4,5
R8 *	6 years	18 suppliers	Commercial Buyer	Senior	Cluster 1,2,3
R9 *	6 years	12 suppliers	Supplier Developer	Senior	Cluster 3,7
R10	23 years	8 suppliers	Food Technologist	Middle	Cluster 3
R11 *	5 years	20+ suppliers	Commercial Buyer	Senior	Cluster 1,2,4,5,6,7
R12 *	5 years	20+ suppliers	Product Developer	Senior	Cluster 2,6,7
R13	14 years	8 suppliers	Product Developer	Junior	Cluster 6
R14	2 years	2 suppliers	Commercial Buyer	Junior	Cluster 1
R15 *	4 months	20+suppliers	Product Developer	Senior	Cluster 1,2,3,4,5,7
I1 *	2 years	30+suppliers	Account Manager	Senior	Cluster 1,2,3,4,5,6,7
I2	2 years	9 suppliers	Account Manager	Middle	Cluster 2,3,4,5,6,7
I3	4 years	15 suppliers	Account Manager	Junior	Cluster 1,2,7
I4 *	6 years	150 suppliers	Account Manager	Senior	Cluster 2,4,5,6,7

Participant	Duration at organisation	Total supplier exposure	Area of expertise	Level of seniority	Innovation cluster involvement
I5	4 years	24 suppliers	Account Manager	Middle	Cluster 3
I6	1 year	12 suppliers	Account Manager	Junior	Cluster 6
* senior positions					

In Table 63, internal participants represented various roles pertaining to the product innovation performance process, as indicated in the fourth column titled 'area of expertise'.

Food technologists were the custodians of the technical aspects pertaining to the product production in a safe and hygienic manner (Tufano et al., 2018). The sample included three levels of food technologists - junior (R5), middle (R1 and R10) and senior level (R2).

The product developers also range in levels of junior (R13), middle (R3, R4 and R6) and senior (R12 and R15). The product developer role involved the creative component - engaging directly with suppliers with regard to product features like flavour, size, naming convention, type - and required a collaboration with both commercial buyers and food technologists (Afif et al., 2020; Elg & Paavola, 2008).

The commercial aspects were steered by commercial buyers at varying levels, namely junior (R14), middle (R7), and senior (R8 and R11). Commercial buyers were tasked to negotiate and finalise cost-efficiency (Elg & Paavola, 2008), pricing structures (Watson et al., 2015), contracts (Elg & Paavola, 2008), trading terms and conditions (Kim & Takashima, 2019), launch and subsequent volume management (Tsai & Hsu, 2014), and sale-through (Kim et al., 2017). In the case of these participants, commercial buyers interacted with product developers, and to a lesser degree food technologists.

The intermediary team members were all titled account managers at varying levels of seniority, namely junior (I3 and I6), middle (I2 and I5) and senior (I1 and I4). These account managers liaised with suppliers, commercial buyers and food technologists, and their purpose was to align the whole innovation journey for the product categories under their custodianship. These intermediary account managers were responsible for a third of the product development for the retailer, while the remainder was conducted by internal team product developers.

These interviews all occurred over a time span of four months. All the internal team interviews were face-to-face, and were conducted within 60 minutes.

6.1.2 External team supplier sample description

Semi-structured interviews were conducted with 19 individuals from seven different supplier organisations. All interviewees represented suppliers that provided private label, manufactured products to the retailer. The final products that were produced bore the retailer's brand on the final packaging. The interviews were imported into the ATLAS.ti software and labelled S1 to S19. Table 64 provides a biographical description of the external team supplier interviewees, regarding duration of supply to retailer, exclusivity of supply parameters, and how these interviewees corresponded with the seven innovation clusters.

Table 64

Biographical Sample Description of External Team Supplier Interviewees

Innovation clusters	Interviewees		
	Supplier team (n=19)	Duration of supply to retailer	Exclusivity status
Cluster 1	S1, S5, S16, S17	> 5 years	Not exclusive
Cluster 2	S2, S4	< 5 years	Not exclusive
Cluster 3	S3	> 5 years	Not exclusive
Cluster 4	S6, S7, S8, S9	< 5 years	Exclusive
Cluster 5	S10, S11, S12, S13, S14	< 5 years	Exclusive
Cluster 6	S15, S19	< 5 years	Exclusive
Cluster 7	S18	< 5 years	Not exclusive

In Table 64, the suppliers that were interviewed had varying levels of exclusivity and none of these suppliers worked with direct competitors of the retailer. Participant selection was done based on the guidelines from the head of innovation for the retail organisation. All except two of the suppliers had been supplying the retailer for more than five years. For each of the supplier companies, perspectives were provided in terms of: (1) food technology; (2) product development; and (3) commercial management. At three of the suppliers, one person fulfilled all three positions of food technologist, product developer and commercial manager. Supplier participants were based in the Western Cape and Gauteng. Participants were individually emailed by the head of innovation, with the researcher copied in on the mail. The message to potential interviewees included information regarding the study, the researcher and a request to prioritise time for the interview. The supplier interviews occurred over a time span of four months. Most of the supplier team interviews were face-to-face, with three of the supplier interviews completed telephonically. Each interview lasted a duration of 60 minutes.

6.1.3 Innovation expert sample description

Semi-structured interviews were conducted with 20 individuals that were deemed industry experts and the interviews were labelled IE1 to IE20. Once these interviews were transcribed, they were imported into the ATLAS.ti software, saved as primary documents and labelled IE1 to IE20. Table 65 provides a biographical description of the innovation expert interviewees, regarding year-count of innovation experience in different settings and areas of this research study's construct to which these experts provided a perspective.

Table 65

Biographical Sample Description of Innovation Expert Interviewees

Innovation experts	Innovation knowledge breadth			Conceptual model element			
	International retail landscape	South African retail landscape	This study's retailer	Transformational leadership	Self-leadership	Leader-member exchange	Retailer-supplier exchange
IE1	14 years			X	X	X	X
IE2		19 years	10 years	X	X	X	X
IE3	6 years	14 years	6 years	X	X	X	
IE4		20 years		X	X	X	X
IE5	8 years	14 years	8 years	X			X
IE6		22 years	13 years	X	X	X	X
IE7	17 years	19 years	16 years	X	X		X
IE8		37 years	11 years	X	X	X	X
IE9	19 years			X	X	X	X
IE10		13 years	4 years	X	X	X	X
IE11	24 years	24 years	10 years	X	X		X
IE12		11 years		X	X	X	X
IE13		12 years	8 years	X	X		X
IE14	16 years	23 years	5 years	X	X	X	X
IE15		26 years		X	X	X	X
IE16	18 years	18 years		X	X	X	X
IE17	18 years	18 years	18 years	X			X
IE18	2 years	10 years		X	X	X	X
IE19	10 years	19 years	10 years	X	X	X	X
IE20	21 years	48 years	48 years	X	X	X	X
Total participants	12	18	11	20	18	15	19

In Table 65, the innovation expert participants provided insights into the leadership and relational aspects of a retail organisation. While many of the participants could provide insights pertaining to the retail organisation of this particular study, none of the participants held this perspective exclusively. The innovation expert interviewees provided balanced insights from both international and South African retail perspectives. All innovation expert participants:

- could provide grocery retail leadership insights,
- could provide impressions on relationships - be these internal or retailer-supplier relationship insights
- amassed experience of at least 10 years directly linked to product innovation performance in a grocery retail setting
- fulfilled at least one of the roles throughout the span of their careers: product developer, commercial buyer, food technologist, innovation leader, supplier-developer, supplier-commercial leader and general innovation team member.

Innovation expert participants were based in Cape Town, Johannesburg, Toronto and Brisbane. All except two interviewees understood the South African retail landscape well. Eleven of the participants had both general South African retail prowess, and sufficient knowledge of this research study's retailer. Twelve of the participants had expertise rooted in global retail perspective. Six of the participants had global, South African and study-retailer expertise. Participants were individually requested to participate via personal email invitation. The message included information regarding the study and the researcher with a request to prioritise time for the interview. These interviews occurred over a time span of four months. Most of the interviews were face-to-face, with six of the innovation expert interviews completed telephonically. Each interview lasted for 60 minutes.

6.2 RETAILER INTERNAL TEAM MEMBER DATA ANALYSES

6.2.1 Open and axial coding

Prior to starting the coding process, all transcriptions of interviews were saved as primary documents in ATLAS.ti. In Chapter 4, the coding methodology is outlined to entails several stages of refinement of the data into themes and subthemes. The first phase entailed the identification of relevant quotations from the primary documents. These quotations were then labelled as *first-level open codes*. In total, 553 verbatim quotations, highlighted from the 21 primary documents, pertained to innovation performance in the context of leadership and relationships. Each of these quotes was given a basic label or what is referred to as an *open code*, that described the nature of the quotation's data in relation to the research focus. Once *open codes* were assigned to relevant verbatim quotes, a

sorting process commenced. The sorting process involved merging any *open codes* that were (1) similar or duplicate descriptions, (2) combining similar concepts, (3) eliminating any *open codes* that did not fall in the parameters of the research questions and purpose of this research study, and (4) improving the description of the *open code* to ensure greater accuracy and appropriateness.

Once these first-level open codes were sorted according to the aforementioned four steps, 138 *second-level open codes* represented the initial 553 quotes in a simplified and more coherent way, and thus moved from descriptive to conceptual labels (Friese, 2019). The next step was to organise these *second-level open codes* to create code categories as they related to the constructs in the conceptual quantitative model (Figure 20). Based on the conceptual model, the relevant concepts that pertain to the internal team participants are outlined in Table 66.

Table 66

Conceptual Model Constructs Relevant to Internal Team Participants

Internal team participants		
Element from conceptual model	Abbreviation as code prefix	Colour code
Transformational leaders	TL	●
Self-leadership	SL	●
Transformational leadership linked to self-leadership	TL->SL	●
Leader exchange quality (leader perspective)	TL->LMX	●
Self-leadership as a mediator between transformational leadership and LMX	SL->LMX	●
Internal member exchange quality (follower perspective)	LMX	●
Transformational leadership linked to retailer-supplier exchange	TL->RSX	●
Retailer-supplier exchange quality (retailer perspective)	LMX->RSX	●
Leader-member exchange linked to perceived organisational innovativeness	LMX->PORGI	●
Perceived organisational innovativeness to product innovation performance	PORGI->PIP	●
Leader-member exchange linked to product innovation performance	LMX->PIP	●
Retailer-supplier exchange linked to product innovation performance	RSX->PIP	●
Product innovation performance	PIP	●

The relevant elements from the conceptual model, as outlined in Table 66, created anchors to the *second-level open codes*. Practically, each *second-level open code* was matched with that element from the conceptual model it most appropriately represented. Colour codes were assigned to enable

easy identification and organised grouping. Table 67 itemises phases one to five and adds additional phases of refinement that guided the analysis.

Table 67

An Example of Coding Sequence of Phases With an Example From the Internal Team Participants

Phase	Action	Example
Phase 1	Identify relevant quotation from source document	<i>“When I say we, the technical team went and assisted them to put the processes in place to, you know, help them set up the line together with their R&D and factory or production managers to get to a point where we went through many, many trials of trying to get it right” (Participant I6)</i>
Phase 2	Assign <i>first-level open code</i> to particular quotation	<i>“supplier team is under-resourced, adding strain to retailer relationship”</i>
Phase 3	Refine/consolidate/eliminate to achieve <i>second-level open code</i>	<i>“problematic under-resourced supplier”</i>
Phase 4	Assign <i>code category</i> informed by aspect of conceptual model	<i>“LMX->RSX”</i>
Phase 5	Retain <i>code category</i> prefix from conceptual model while further refining <i>second-level open code</i> descriptor	<i>“LMX->RSX” and “problematic under-resourced supplier”</i>
Phase 6	Review all Phase 5 quotes and group to achieve a third layer <i>initial thematic grouping</i> to cohere all similar <i>second-level open codes</i> from Phase 3	<i>“COLLABORATION”</i>
Phase 7	Additional abbreviation, combining and refining	<i>“LMX->RSX: COLLAB_ problematic under-resourced supplier”</i>
Phase 8	Fine-tuned thematic grouping with subthemes	

The relevant elements from the conceptual model, as outlined in Table 67, created anchors to the *second-level open codes*. In practice, each *second-level open code* was matched with an aspect of the conceptual model that it most appropriately represented. Colour codes were assigned to enable easy identification and organised grouping. Table 67 itemised phases one to five and included three additional phases of refinement. The quote (*phase 1*) was labelled (*phase 2*), the label was challenged (*phase 3*), the improved label was matched to the conceptual model’s intrinsic components (*phase 4 and 5*). The next step was for the *phase 5* codes to be compared in order to ascertain initial thematic groups (*phase 6*). Once further refining of language had occurred and codes that contain duplication were merged, a greater sense of a theme was obtained.

The occurrence of relevant quotations, extracted from the internal team participant interviews, that pertained to the conceptual model - or *phase 4* of the coding process - is outlined in Table 68.

Table 68

Phase Four Quotation Count, for Internal Team Participant Data, Grouped Along the Elements of the Conceptual Model

Colour	Element in conceptual model	Groundedness	Description
●	LMX->PIP	297	Internal teams and innovation performance
●	LMX	234	Internal team relationships & interaction
●	LMX->RSX	216	Relationship between internal teams and strategic suppliers
●	TL	200	Leadership elements, specifically transformational leadership aspects
●	RSX->LMX->PIP	103	Aspects pertaining to retailer-supplier interaction towards product innovation performance
●	SL	64	Self-leadership aspects

The first column in Table 68 exhibited the colour code, which corresponded to the second column and in particular the code category, which was governed by the conceptual model and the elements contained in the model. The term 'groundedness' is a term utilised in the ATLAS.ti-software to indicate code frequency or density (Seböck, 2016). Groundedness is therefore an indication of density, and specifically the density referred to as the frequency at which the same aspect was mentioned by the participants from this internal team group. For example, the internal team participant interviews provided 297 quotations that related to internal teams and innovation, in the context of a product innovation performance setting.

Once each code had been assigned a descriptor (phase 3), and a link to which element in the conceptual model it was best suited (phase 4), phase six could commence. In Table 68 the internal team interviews provided a strong perspective, owing to prolific quotations by the participants, on: (1) internal team relationships; (2) leadership; and (3) supplier interaction, and how these three aspects either aided or hampered the product innovation process. *Phase five* second-level open codes are presented in Appendix F.

The highest occurring *initial thematic groups* that emerged in *phase six* are listed in Table 69 in order of groundedness.

Table 69

Phase Six Initial Thematic Groupings, for Internal Team Participants, in Order of Groundedness, With Additional Descriptions

Initial thematic groups	Groundedness	Elaboration on initial thematic groupings
Relationship-supplier	234	Quality and nature of retailer-supplier relational exchange
End-consumer relevance	185	Success in innovation, measured by commercial response by end-users or end-consumers
Innovation process	130	Systems and processes in the innovation journey; grouping all aspects regarding collaboration towards innovation success
Relationship-internal	123	Quality and nature of internal-team relational exchange
Leadership	109	Aspects relating to leaders and leadership
Innovation strategy	96	Specifically focusing on the leadership provided regarding strategic innovation direction
Fragmentation	83	Aspects relating to team coherence or lack thereof
Knowledge exchange	58	Relating to aspects of absorptive capacity, exchange of knowledge between internal departments and between retailer and suppliers
Culture for innovation	55	Organisational culture, specifically pertaining to the aspects of organisational culture that promote teamwork towards innovation
Innovation failure	35	Instances regarding failure in the innovation journey

In Table 69, the *initial thematic groupings* broadly convened the codes that share the same essence of the code in the first column. The *initial thematic groupings*, at this point in the analysis, were in raw form and still pending further refinement. For example, the *initial thematic grouping* of ‘leadership’ cohered any codes that primarily related to an aspect of the leader and leadership style. Since innovation can often be a vast term (Samad, 2012), the initial theme ‘end-consumer relevance’ was named to include the definition of innovation that specifically related to this research, with specificity in the definition considered a key element to valid contribution to the body of knowledge (Midgley, 2009; Tsai, 2009). To govern the coding process by assigning a very specific initial theme, namely *end-consumer relevance*, the process enabled ease in identifying individual quotations to this initial theme. The specific *initial thematic grouping* also ensured that other interesting but irrelevant quotes pertaining to innovation were not linked to this *initial theme*. Other *initial thematic groupings* that emerged were relationships with suppliers (labelled *relationship-supplier*) and internal team relationships (labelled *relationship-internal*). The *initial thematic grouping* of ‘knowledge’ convened all elements of data, information and knowledge sharing, as well as the absorptive capacity, which was considered paramount to harnessing organisational knowledge within an innovation ecosystem

with multiple players (Bönte & Keilbach, 2005; Fagerberg, 2005; Tsai, 2009; Wagner & Bode, 2014). The *initial thematic grouping* of 'fragmentation' emerged as a descriptor for many aspects in reference to unalignment, departments operating in discrete silos and general lack of coherent collaboration.

The next step in this coding process was to analyse the most relevant *second-level open codes*, and the *initial thematic groupings* assigned to these, and to fine-tune and cohere these into high-level findings.

6.2.2 Findings

After each *second-level open code* was assigned a prefix that links this particular code to an aspect of the conceptual model and assign each *second-level open code* with an *initial thematic grouping*, the next step was to assess all the *initial thematic groupings*. The main *initial thematic groupings* were distilled by reviewing and grouping high-density codes, along with colour codes and other similarities, in line with the conceptual model. The development of the four initial themes are presented in four respective tables below and are listed as:

- relationship between retailer and supplier;
- fragmented internal relationships;
- leadership and innovation culture; and
- end-consumer relevance.

The first initial thematic grouping is the relationship between retailer and supplier. Table 70 lists the second-level open codes that pertain to the relationship between the retailer and the supplier.

Table 69

Second-Level Open Codes Linked to 'the Relationship Between Suppliers and Retailers' as an Initial Thematic Grouping

Second level codes	Groundedness	Initial thematic grouping	Colour code
Supplier is intentional about building relationship	55	RSX->LMX->PIP: relationship_inno success when suppliers invest in people & equipment	●
Supplier owns category & push innovation	38	RSX->LMX->PIP: end-consumer relevance_supplier constantly pushing innovation (despite no formal channel/system to push)	●
Problematic under-resourced suppliers; ripple effect of an under-resourced supplier; under-resourced suppliers require more hand-holding	35	LMX->RSX: end-consumer relevance_hampered by unambitious, resource-constrained, slacking supplier	●

Second level codes	Groundedness	Initial thematic grouping	Colour code
Uncertainty reduced via communication & leadership; open communication	30	LMX->RSX: knowledge_exchange_two-way flow	●
Developing likeminded suppliers; retailer made by strength of relationships	17	LMX->RSX: relationship_symbiosis, supplier&retailer need each other	●
Suppliers often need to supply other retailers/competitors; supplier commercial viability an issue in pvt label	17	LMX->RSX: relationship_SA limited supplier base, exclusivity difficult, need Chinese walls, high trust	●
Tender process vs developmental-relational process	14	LMX->RSX: transactional_using briefs to play suppliers up against the other	●
Minimal information exchange; only the necessary; reactive and not strategic	13	LMX->RSX: transactional_suppliers receive standard information & knowledge	●
Detailed briefs = saves time = innovation success	13	LMX->RSX: inno strat_improved briefing; comprehensive	●
Requires investment, being intentional with suppliers	11	LMX->RSX: relationship_trust higher with strong supplier	●
Some relationships stronger than others; constraining on internal resources; varying relationships depending on value to retailer	11	LMX->RSX: relationship_not possible to have tight ties with all suppliers	●

In Table 70, there was a high occurrence of quotations from the internal team data that iterate the significance of supplier investment in the relationship with the retailer. The first item listed in the table, coded as 'RSX->LMX->PIP: relationship_inno success when suppliers invest in people & equipment, was the highest occurring code-category descriptor with 55 second-level open codes linked to this code category. The prefix 'RSX->LMX->PIP' referred to the conceptual research model (Figure 20), specifically the effect of relational quality between the supplier and retailer and how the relationship related to product innovation performance. The highest occurring code-category descriptor in Table 70 was also supported by the second-highest listed code-category descriptor. Thirty-eight occurrences of *second-level open codes* relating to the prevalence of suppliers taking ownership of the innovation inception, process and successful completion emerged from this subset. The third item in Table 70 describes, with the occurrence at 35 *second-level open code* references, the adverse effect of under-resourced and unambitious suppliers in the innovation journey. The fourth item supports a high occurrence of codes describing knowledge flows between retailer and supplier to be healthy and flowing from and to the retailer. The other items describe symbiotic retailer-supplier relationships, transactional retailer behaviour, a direct reference to the impossibility for retailers to have tight ties with all suppliers (Meyer et al., 2019). The retailer-supplier relationship is elaborated upon in more detail as one of the main themes.

The internal team interviews provided insights in terms of the internal teams and the interaction dynamics. Specifically, the quotations from the internal team interviews highlighted that there were

many departments and role-players involved in achieving the innovation journey. Table 71 itemises the frequently occurring *second-level open codes* that can be initially thematically grouped as internal relationships and the fragmentation that is evident throughout this data set in reference to internal relationships.

Table 70

Second-Level Open Codes Linked to 'Internal Relationships and Fragmentation' as an Initial Thematic Grouping

Second level codes	Groundedness	Initial thematic grouping	Colour code
Internal team is available for information & there is a functional cooperative relationship	36	LMX: relationship_internal_mostly building functional transactional relationship; maintaining silos	●
Silos are maintained; one department seen as onerous to the other department	33	LMX->PIP: inno process_filled with tension as each silo defend their own KPIs and time horizon	●
Us and them referencing	25	LMX: silo_intermediary not part of the team	●
Individuals struggling to see perspective in organisational structure, size and complexity of the business, or the bigger picture	23	LMX: relationship_hampered by size, complexity of silo departments	●
Strong individual dept culture; reluctance to move out of comfort zone	22	LMX: relationship_internal_silos, unaligned	●
Individual departments are tight-knit	17	LMX: relationship_immediate team: high quality	●
Notoriety of buyers	11	LMX: relationship_negative buyer reputation & relationships are strained	●
Role of intermediary often uncertain	10	LMX: silo_intermediary_some development done by intermediary	●
Adjusting behaviour around personalities and department to achieve success	10	LMX: relationship_meeting in the middle (commercial vs development)	●
Internal teams understand their specific purpose and the purpose of other teams	10	LMX: relationship_internal_aligned depts	●

The items listed in Table 71 related to aspects of internal team relationships and are listed in order of highest to lowest occurrence. The *second-level open codes* in this *initial thematic grouping* refer to the functionality of the internal team relationships. This group of data yielded a high occurrence of references to 'silos' in terms of departments. The intermediary that assisted this retailer in approximately 35% of their product innovation achievements were intended to be an extension of the retailer's internal team. There tended to be a reference to 'us' when organisational aspects were working well, and a reference to 'them' when product work was adverse.

The third identified *initial thematic grouping* of data confirmed the effect of leaders, leadership and the organisational culture for innovation, and is outlined in Table 72.

Table 71*Second-Level Open Codes Linked to 'Leadership and Innovation Culture' as an Initial Thematic**Grouping*

Second level codes	Groundedness	Initial thematic grouping	Colour code
Lack of communicated vision i.t.o. Strategic objectives engenders confusion	28	Tl: inno strat_vision unclear, strategy incoherent	●
Followers experience the leader as positive and transformational	28	Tl: leader_pos_impact of a transformational leader	●
The cost to fast-track; leader mandate is heavy on internal resources; fast-tracking causing issues	22	Tl: inno process_leader_time pressure; interfering for inno fast-tracking	●
Mid sign off mandated. Reverts take time. Long deliberation prior to making a decision.	20	Tl: inno process_leader_signs off delays/issues	●
Leader availability, openness, easy	17	Tl: relationship_direct leader: good exchange	●
Balancing innovation quest: now vs future	16	Tl: leader_leading team re.: now and future innovation	●
Individual treatment (coaching, mentoring, supporting) of team members by their leader	12	Tl: leader_indiv consideration_coaching & mentoring	●
The leader fulfills an innovation championing role	11	Tl: inno strat_some leaders provide a clear compelling vision & strat	●
Highly placed executive leader has a negative reputation	11	Tl: leader_negative reputation	●
Building relationships takes time	10	Tl: relationship_void left when tl leaves; takes time to fill with new mentor	●
As a matter of fact; nothing special, nothing negative; can still be a functional relationship	8	Tl: relationship_quality_transactional aspect	●
Micro-managing, demanding, disabling innovation	7	Tl: culture_over-ride & over-rule	●

In Table 72, the *second-level open codes* that related to the *initial thematic grouping* of leadership and the innovation culture these leaders created emerged as a recurring aspect from the internal team data. There was a frequent occurrence of interviewee quotations referring to the lack of vision or strategy provided by some senior leaders, while other leaders were praised for their impactful and transformational leadership behaviours. A micromanagement leadership style was confirmed by some participants, which tended to cause delays in the innovation completion journey.

The final *initial thematic grouping* of frequently occurring *second-level open codes* from the internal team data set focuses on innovation success manifested in the form of end-consumer relevance, as itemised in Table 73.

Table 72*Second-Level Open Codes Linked to 'End-Consumer Relevance' as an Initial Thematic Grouping*

Second level codes	Groundedness	Initial thematic grouping	Colour code
Supplier owns category & push innovation	38	RSX->LMX->PIP: end-consumer relevance_supplier constantly pushing innovation (despite no formal channel/system to push)	●
Difficult when retailers want to imitate each other; obsessed with benchmarking & comparing	36	LMX->PIP: end-consumer relevance_incessant retailer compares with competitors	●
Recognition that end-consumer is vital and that sometimes end consumer can be misunderstood	30	LMX->PIP: end-consumer relevance_understanding who the end-consumer is = innovation success	●
Instead of guessing, why not interact directly with end consumer and be sure; overall still too much copying	28	LMX->PIP: end-consumer relevance_misunderstanding the definition 'innovation'	●
Customer insights gathered; data applied to future development	24	LMX->PIP: end-consumer data applied to persuade/motivate (recent)	●
Want to see a distinct innovation identity at retailer; comparison to competitors	24	LMX->PIP: end-consumer relevance_difficult to achieve with unaligned team	●
When supplier and retailer are aligned re.: what the end-consumer needs, product innovation performs	11	RSX->LMX->PIP: end-consumer relevance_success due to accurate grasp by supplier of who end-consumer is	●
Matching category, industry, capabilities, end-consumer	11	LMX->PIP: end-consumer relevance shows up in price/brand/quality/intrinsics/range	●
Not an easy feat; also very nuanced consumer base	11	LMX->PIP: end-consumer_vast base to satisfy	●

In Table 73, the high occurrence of *second-level open codes* supported the leading role suppliers play in pushing innovation by taking ownership of their particular product categories. The supplier ownership of innovation occurred even in the light of no formal systems in place to push new innovations or improvements to existing products. There was a high occurrence of quotations referring to some form of comparison to the other retailers that were considered as competitors. The incessant comparison in almost every one of the internal team participants to retailer competitors posed some concern that the retailer of this study might not fully understand their end-consumer. The misunderstanding of the end-consumer profile was evident when considering that the retailer's competitors were serving a very different consumer base. In order to conduct *phase eight* of the qualitative analysis, each of the *initial thematic groupings* were analysed and distilled into a *fine-tuned theme*, along with *subthemes* that form part of a main fine-tuned theme.

Table 74 outlines the fine-tuned themes and subthemes gleaned from the internal team interviews, with greater elaboration in the section to follow.

Table 73*Themes and Subthemes Identified From the Internal Team Member Interviews*

Theme	Theme description	Subtheme description
Theme 1	Strategic supplier relationships have an impact on collaboration towards innovation performance	<ul style="list-style-type: none"> • A symbiotic retailer-supplier relationship enables a successful innovation journey • Supplier investment in retailer relationship is effective in expediting innovation • When a formal system for push-innovation is lacking, suppliers cannot optimally support the innovation process
Theme 2	Fragmented relationships among team members, departments and intermediaries impair innovation	<ul style="list-style-type: none"> • Silos and structural constraints hamper collaboration • Differential departmental performance objectives cause discord and a lack of alignment regarding the innovation strategy • Unclear accountability structures result in confusion and complications • The conduct of buyers influences internal and external stakeholder relationships
Theme 3	Unaligned collaboration to achieve end-consumer relevance impairs innovation performance	<ul style="list-style-type: none"> • The time horizon of innovation performance needs to balance the immediate and future innovation strategy • A divergence in the definition of innovation results in unaligned and unoptimised product innovation • A lack of pride in own brand leads to unoptimised product innovation performance
Theme 4	Varying styles of innovation leadership does not translate into a culture that prioritises innovation	<ul style="list-style-type: none"> • An incoherent culture of collaboration and innovation affects morale and focus • Transformational leaders have a positive effect on internal team members • Leaders with transactional leadership traits has an adverse effect on team members

One of the major findings of the quantitative findings in Chapter 5 is that there is a lack of relationship between leader-member exchange and retailer-supplier exchange; this first subset of qualitative themes provide some insights to this absence of relationship between these two constructs. Each of the themes and subthemes in Table 74 are discussed in detail in the sections to follow; and, in line with Thompson & Walker (1998), some direct quotations are included as evidence of leadership and relationships, and how these pertain to product innovation performance.

6.2.3 Theme 1: Strategic supplier relationships have an impact on collaboration towards innovation performance

A strong correlation exists between retailer-supplier relational quality, knowledge transfer and new product development performance (Sjoerdsma & Van Weele, 2015). Strategic alliances between retailers and suppliers are fundamental in the innovation journey and prolifically demonstrated as relevant in the literature (Cheng & Chen, 2013; Chesbrough & Bogers, 2014; Wagner & Bode, 2014). Symbiotic collaboration enables innovation advantages for the retailer in terms of speed to market,

specialised knowledge by tapping into supplier knowledge networks, and a reduction in development costs (Bönte & Keilbach, 2005). Creating and building partnership-style relationships between retailers and suppliers remain challenging, since the development of relationships require time and are considered resource-intensive (Goffin et al., 2006). Investing in the wrong supplier has repercussions in terms of wasted opportunity cost (Fernie & Sparks, 2018). The decision to invest in a supplier partnership, therefore, requires consideration of the context (Van der Valk & Wynstra, 2005), as was affirmed by a senior leader from the internal team (R11), comparing the retailer-supplier relationship to symmetry that required unlocking:

- *‘What I’m trying to encourage now, is more of a partnership relationship where you know, people support, they create, let’s get in an environment where we come up with these ideas together... It is about relationships in the context of people’s ability to unlock that symmetry.’ (R11)*

6.2.4 A symbiotic retailer-supplier relationship enables a successful innovation journey

The shift from a transactional retailer-supplier relationship to a partnership-style relationship where dual needs are acknowledged is a key aspect of the modern grocery retail industry (Fernie & Sparks, 2018). The symbiotic relationship that exists between suppliers and retailers emerged strongly from the internal team participants. Seven of the internal team participants, constituting 33.3%, specifically referred to aspects of symbiosis and partnership, specifically in the context of a symmetrical acknowledgement of the requirements of both parties (R11), and an interdependence between each other (R9):

- *‘Ja, and I think that comes down to a partnership, you know.’ (R15)*
- *‘And then the innovation comes. The reason I say “and then the innovation comes”, is because then they understand that in order to innovate, you need partnerships and in order to have partnerships, you need relationships. And so, everything is intertwined. It can’t actually be divorced from each other.’ (R9)*
- *‘We need the supplier base just as they need us.’ (R9)*

Open communication is considered one of the aspects that have a strong impact on relational quality between retailers and suppliers (Sjoerdsma & Van Weele, 2015). From the data, responses from the participants indicated that there seemed to be a practical approach to open communication, specifically between suppliers and the internal team technologists and product developers. The communication was described as “two-way” (R2), informal and easy to access (R5), and regular (R6):

- *‘Together I think it’s [communication] constant- it’s first of all having a good relationship with a bunch of [suppliers involving] constant feedback, constant information, pushing in information.’ (R6)*

- *'So, I said if there is an issue, if you have a concern, pop me a WhatsApp, it's an open platform, [the technologist] is in the group, if I can't assist, she's there, we can have an open discussion about it, if it's something urgent, I'll pick up and phone.'* (R5)
- *'They [suppliers] are very open, they're open for suggestions, but even on sharing, so I feel that a communication with them is two-way [street].'* (R2)

Relational investments by both parties contribute to the overall symbiosis between retailers and their suppliers (Sjoerdsma & Van Weele, 2015; Van der Valk & Wynstra, 2005; Wagner & Bode, 2014). Personal connections between individuals from both retailer and supplier teams have shown to advance the overall retailer-supplier relationship (Clauss & Bouncken, 2019). Three participants pointed out that the success of the relationship between retailer and supplier was rooted in the personal connections between team members on both supplier and retailer sides (R12, R15 and R3). The dedication from team members was usually a reflection of the quality of the individual relationships. Participant R3 alluded to the human aspect of relationship development, where personality idiosyncrasies required adaptation by both parties contributing to building the relationship:

- *'My personal philosophy and one role that I've worked with, is that people do something for somebody and not for something. So, from a supplier point of view, it's about building trust and about a partnership.'* (R12)
- *'I think in different departments it's different, and I think that comes down to a person rather than an organisation.'* (R15)
- *'They've had to learn to adapt to me, because obviously I come in there and say like this is what we're doing, whereas often they might not like that in the beginning, but we've all had to adapt. And we all get on really, really well. I do - there are strong relationships.'* (R3)

A symbiosis is achieved based on personal relationships, where individuals - be they from the retailer or the supplier - form the connections and bonds (Clauss & Bouncken, 2019). An interdependence is developed, where resources are pooled for dual benefit to both retailer and supplier (Fernie & Sparks, 2018), which ultimately enables efficiency and efficacy towards innovation performance (Bednall et al., 2018; Birasnav et al., 2011; Wu & Wu, 2015). The data from this subset aligned with the literature confirming a personal connection between individuals was advantageous in the collaboration process towards product innovation performance. Partnership-type relationships between suppliers and retailers considered the needs of both parties, ensuring that the association built stability.

6.2.4.1 Supplier investment in retailer relationship is effective in expediting innovation

According to Albors-Garrigos (2020) and Cormican and O'Sullivan (2004), the five critical aspects required for innovation success is investment in terms of people, technology, equipment, time and capital. Retailers are reliant on their suppliers to make many of these capital investments in order to

develop and manufacture products (Konuk, 2019; Nandonde, 2019). According to the internal team participants, some suppliers simply stood out in terms of how they invested in the relationship with the retailer with strong initiative (R1), and being wholly invested (R3). Suppliers that took proactive action demonstrated initiative through proactive communication and suggestions to remedy development errors (R1). In cases where suppliers invested in the product innovation strategy, new product inception, and operational processes and resources, significant value was added to the achievement of innovation performance:

- *'Well, the others are, some of them are also strategic partners. It's just [supplier name] is a level above the other suppliers. They come to the party [quality contribution], you don't have to hold their hand to do stuff.'* **(R1)**
- *'They very much - they love [retailer name], they love what we do, they bend backwards for us, they're on the same path as us, the same vision, they're just wanting to be the best they possibly can for us, which is a really nice relationship to have. Because no matter what I ask for, if they can't do it, there's a way, they'll find a middle ground here. So, they are, they're on board of this whole journey with us, which is really nice.'* **(R3)**

Innovation success is achieved when the appropriate resources are mobilised (Neck et al., 1999). The resources that are most relevant to the innovation process include team members and technology often achieved through specialised manufacturing equipment (Harborne & Johne, 2003). According to the internal team participants, many suppliers invested the appropriate resources in order to contribute to the achievement of innovation success, which confirmed existing research (Neck et al., 1999; Harborne & Johne, 2003). Examples of appropriate resource investment included organisational processes (R3), and investing in the necessary technology and equipment (R1 and I1). In cases where suppliers took the initiative to proactively gear a facility to be prepared for further expansion, the retailer was enabled to proceed with innovation with confidence (I1). A supplier that was ready to develop and innovate underwrote this intention by investing financially to fund appropriate people, processes, time and equipment (R3, R1 and I1):

- *'They've [suppliers] got a team, everyone helps each other out, everyone - they've all got each other's back. They drive it [innovation] together. So, they have their weekly meetings, they have a discussion, bounce ideas off each other, which is a really nice thing, and they are, they are strong. You can say something to them and they just go. They really are strategic in everything they do.'* **(R3)**
- *'So, from their side, they have a team that works with a [retailer name] team and they invest in equipment and they come up with all kinds of ideas for their equipment.'* **(R1)**

- *'We had a meeting the other day, we went to a supplier as well and we looked at their facility and they were telling us about what their plans are and what their innovation plans are. And I mean, like that facility was just absolutely incredible in terms of their processes, their cleanliness, their whole facility was just really world-class. And those guys also, we do obviously put a lot more confidence in to try and develop further product with them, because we know that they also have the skin in the game as well.'* (I1)

In tandem with resourcing sufficiently, a similar strong occurrence of participants mentioned that the proactivity of suppliers in terms of rectification of mistakes as crucial in building a strong relationship. High levels of supplier accountability and ownership cultivate high levels of trust (Jie & Gengatharen, 2019; Ndlovu, 2019). Suppliers were described by internal team participants as taking the initiative, rectifying problems, and exploring a myriad of options to remedy a problem (R5, R3 and R1). Liden and Graen (1980) asserted that trust builds in a compounding manner, where the more trust is established, the greater future entrustment occurs. Trust culture between suppliers and retailers also enables investment in terms of retailer team member time, where suppliers are nurtured and developed (Day et al., 2013; Fawcett et al., 2012; Zhang et al., 2015). According to internal team participants, in instances where suppliers took proactive action, the supplier was established as accountable in the mind of the retailer, which added to the establishment of trust:

- *'I do have proactive suppliers where, if there's an issue, they'll come to me and they'll say we picked this up and this is what we've done, are you okay with this, are you in agreement.'* (R5)
- *'Whereas [supplier name] take their own initiative and address it before I even bring it up.'* (R3)
- *'They're successful because they put the work in and they are accountable. And if you say this is not working, they will find a way to fix it. Whereas some of the other suppliers are not as proactive.'* (R1)

In line with ties theory, it is not possible to form tight and nurturing ties with all suppliers (Hughes & Perrons, 2011; Roscoe et al., 2016). According to some of the internal team participants, around 10% of suppliers were of a strategic nature (R12). Granovetter (1973) confirmed that strength of ties can be determined by history of collaboration, level of confiding, reciprocation and emotional intensity. These aspects mentioned by Granovetter (1973) are mostly focused on the relational side of retailer-supplier collaboration. The reciprocal aspect (Granovetter, 1973) was echoed by participant R1 in the sense that there was a response by the supplier to the retailer's time investment in this particular supplier. Participant R11 confirmed ties theory in the context that time is finite and it does not allow the same quality of retailer-supplier relationships to prevail across the supplier base. Participant R11 anchored supplier selection to be based on the advantage it provided to the retailer, which negated Granovetter's (1973) anchoring around history, reciprocation and emotional connections:

- *'And out of that 100, you would probably have between 10 and 15 really strategic exclusive guys.'* (R12)

- *'You had a different relationship with suppliers based on their strategic importance to your business.'* (R11)
- *'Well, the others are, some of them are also strategic partners. It's just [supplier name] is a level above the other suppliers. They come to the party; you don't have to hold their hand to do stuff.'* (R1)

The main impediment to having strong ties with all suppliers is that it is resource intensive (Konuk, 2019; Nandonde, 2019). From the retailer's side, the risk of investing in the wrong supplier leads to repercussions regarding wasted resources (Ferne & Sparks, 2018). Wasted resources specifically emerge in the form of squandered internal team member time, which is generally at the cost of not investing in an alternative, more responsive supplier (Yun et al., 2020). Suppliers that did not have sufficient people - like food technologists or product developers - emerged in the internal team member data as an impediment in the innovation performance journey (R2 and I6). Responsive suppliers worked with retailer guidelines and contributed to the innovation process (I1). Conversely, non-responsive suppliers required constant support and reinforcement during every step of the innovation process (R10 and I6):

- *'Yes, that's right, and if they [supplier] don't have the person to do the job, nothing is improving. So, it's just this vicious cycle, and they don't have the money to employ this person, but they're not going to make the money because they don't have that person.'* (R2)
- *'[Supplier name] is clueless, completely clueless. So, they are going to need baby - it's going to be little steps.'* (R10)
- *'And the reason why I say that, is because when you are employed as a developer as well, it's not just re-engineering products, it's about pushing a new product development through as well. So, you almost like showcase stuff to your client in order to get business. So, I do feel like yes, if they add resource [appropriate knowledge worker], definitely.'* (I6)
- *'... a technologist will work very closely with a supplier as well. So, they'll [retailer's food technologist] do monthly site inspections, they'll be - you know, request audit facilities and all of that. You know, and they pick up a lot of non-conformances as well when they walk the floor and they go and do their site inspection and then the suppliers generally that are good, will be very quick to rectify and update and send back a report and all of that, whereas with others, you've got to knock on their door ten times before they do anything.'* (I1)

Some suppliers may never be of strategic value for product development owing to the grocery retailer's business strategy and end-consumer approach (Hughes & Perrons, 2011; Roscoe et al., 2016). As was described by participant R11, a supplier that could positively enable the retailer's business was considered significant. Autry and Golicic (2010) asserted that the retailer commences supplier relationships from the same starting point, and upon this starting point relational exchanges follow to enable greater mutual trust (Fawcett et al., 2012). One of the positive effects of growing trust is the overall flourishing retailer-supplier relationships (Krishnan, 2005). However, the internal team participants indicated that if the supplier's type of business did not fall within the strategic

objectives of the retailer (R11), no amount of relational kindling (per Granovetter, 1973) could aid the supplier's position in the eyes of the retailer:

- *'And there are supplier relationships where suppliers are completely exclusive to you, and that's a very different relationship. Based on the importance of suppliers, would be their ability to enable your business.'* (R11)

The tender system as a means of product innovation involves the retailer supplying details of the project and awaiting a wide range of suppliers to bid (Philipsen & Kolind, 2012). The bidding process is concomitant with a retailer-supplier relationship "characterised as arms-length", which creates uncertainty and impermanence on the part of the supplier (Philipsen & Kolind, 2012, p. 12). The particular retailer of this study utilised a tender system, thereby opening the development process to a variety of suppliers. Tender systems with suppliers are considered transactional and hinder the building of long-term relationships (Hughes & Perrons, 2011). The findings from the internal team participants confirmed that, in the context of product innovation by means of tenders, the scope for co-developing in a relational manner was reduced and the relationship became more competitive among suppliers (R15, I6 and I3):

- *'And that's why, a lot of these suppliers, it's all tender-based, so they're all just submitting stuff and they're sort of - so it's not a - a lot of them don't want to share the stuff with us, because they don't know if you're going to take it and give it to some other guy to do.'* (R15)
- *'So, whoever won the tender would obviously get the business. So, it was a bit uncomfy [uncomfortable], but ... ja, they are, I would say they are competitive, because there are side comments of oh, I can do this, you know.'* (I6)
- *'Ja. Look, I have to say from my side there's more, aside from data, sales, and tenders, when I do tenders, I include new suppliers as well as all my regulars, where I would have the product brief.'* (I3)

According to some of the internal team participants, some suppliers invested in the relationship with the retailer, while other suppliers did not. In scenarios where suppliers invested in the relationship by appointing sufficient team members to fulfil key functions, as well as invest in the necessary equipment, the innovation performance journey was in an ideal position to achieve success. In cases where suppliers did not have appropriate or sufficient team members, the retailer was required to supplement this absence or shortfall by fulfilling these roles on the supplier's behalf. For example, if a supplier did not have a food technologist in place, the retailer's food technologist was required to check production processes in greater detail, which required time. The willingness of suppliers to underwrite the relationship by 'putting skin in the game', as described colloquially, was a demonstration of allegiance to the retailer, and enabled the development of trust. In tandem with properly resourced suppliers, there was acknowledgement by internal team participants that strong ties could be established with a finite number of suppliers, and that planning should be done to stratify

suppliers according to: (a) supplier commitment; and (b) suppliers that were able to produce products in line with the retailer's product innovation strategy.

6.2.4.2 When a formal system for push-innovation is lacking, suppliers cannot optimally support the innovation process

Absorptive capacity is the organisational mechanism that allows knowledge flows to be useful towards future innovation achievements (Tsai, 2009). The supplier generally holds specific technological and/or product category-specific knowledge (Ganesan et al., 2009), while the retailer possesses end-consumer data and knowledge (Hueske, et al., 2015). Information sharing from retailer to supplier is often critical for the supplier to participate in product innovation where the innovation impetus often does not originate with the supplier since suppliers do not have comprehensive knowledge (Kim, et al., 2015), especially regarding the retailer's end-consumer (Hueske, et al., 2015). As confirmation of the importance of absorptive capacity in the retailer-supplier relationship, a prolific occurrence of suppliers investing in their innovation prowess or talent (R13), equipment (R1), and taking initiative by pushing innovation towards the retailer (R4) was iterated among the internal team members:

- *'Ja, so two of the three is very much inherent in their sort of company culture, they're going overseas, they're looking at what works in other environments, and in South Africa, they are looking at sort of the internet and social media and what is trending, looking at how to integrate that into products that [retailer name] currently has, and how to sort of adapt to trends.'* (R13)
- *'So, they built a facility for us, they came to us and said we want to be a strategic partner and we're building a facility.'* (R1)
- *'We approached them to say do you want to make [new product category] by any chance, and they went overseas to go and look at processes that they could use and they decided on their own system. And we worked together in a factory.'* (R1)
- *'I just had a meeting with [supplier name]'s project management team last week where they were tasked with different people in their company to go and look at what other projects can we do. So, it's an IT [information technology] guy and an operational guy, going and looking okay, this is the company that I work with, what ideas can I actually come up with, and they came up with a very brilliant idea on [product category].'* (I2)

The effect of supplier initiative and leadership creates momentum in the innovation process (Yun et al., 2020). In the spirit of collaboration, the retailer receives ideas and inputs from the supplier, which can be incorporated with other ideas (Hueske, et al., 2015), thereby enhancing the innovation journey and potential for success (Fuller & Jonas, 2013). According to the internal team participants, supplier facilities that were properly resourced with production equipment where suppliers also presented product innovations by own volition (R3), initiative (R4), and enthusiasm (I3), contributed vastly to the innovation process. This supported the literature, citing the positive effect of collaborative supplier-led innovation:

- *'Innovation from their side, definitely. It was not last week, the week before, I was in Jo'burg [Johannesburg] at another supplier, and I told her I'd be available on the Friday. She's like please come along, I want to show you some stuff that I've been working on, and it was amazing.'* (R4)
- *'They're bringing proper products which we can definitely look at, whether we brief them or not, they're very relevant to what they do.'* (R3)
- *'[Supplier name] is very forthcoming and if I usually - we just did a range of flavoured teas as well, and she's on the ball, she's always willing to assist.'* (I3)

Despite the willingness of suppliers to take the lead in terms of innovation, there was an admission that suppliers were not provided with a system or structure within which to submit their innovations. The absence of a strategy (R15), timeline (R4), and innovation briefs (I6) was met with timidity or a lack of confidence (R3) in pushing innovation:

- *'There is no clear plan, and it's everyone just sort of chasing their tails and getting stuff done, because it's, you know, I'm busy, not even real true innovation.'* (R15)
- *'I think that's also from our side, because we're not telling them when our key windows [launch windows] are.'* (R4)
- *'Ja, I think there needs to be more formality in terms of like approvals, in terms of direction, it would be great if it was more detailed, almost like following your NPD [new product development] brief that we give out to suppliers, like something that can be filtered down to.'* (I6)
- *'And they're [suppliers] too scared now, I think, to push from their side.'* (R3)

The internal team participant data supported the notion that suppliers were willing and enthusiastic to invest in the retailer relationship and in advancing product innovation projects. The suppliers that were less invested in their relationship with the retailer were maintained at a general supplier level. The suppliers that demonstrated greater enthusiasm, resources and innovation inclination required harnessing via systems to push innovation ideas and solutions, as well as strategic direction, in order to support the grocery retailer appropriately.

6.2.5 Theme 2: Fragmented relationships among team members, departments and intermediaries impair innovation

The role descriptions, responsibilities and decision-making parameters within an organisation collectively form what is considered 'organisational structure' (Rothberg, 1981). According to Soldatos and Hardy (2004), the organisational structure needs to be designed in tandem with the innovation mandate, thereby providing a level of scaffolding to support the innovation process. Organisational structure can be centralised or decentralised (Kim & Takashima, 2019). Decentralised work teams may lead to the team feeling fragmented, disorganised and distant from each other (Kujala et al., 2016). It is commonplace for differing work units to be part of the innovation process (Teece, 1986). The chances of success in product innovation is enhanced when cross-functional teams collaborate (Tsai

& Hsu, 2014). However, cross-functional team collaboration requires a deliberate structuring to ensure that these separate teams co-create with the same end-result of innovation success in the collective mind (Soldatos & Hardy, 2004). The internal team participants articulated, both directly and indirectly, some form of fragmentation within the team and departments. The reported fragmentation either related to a lack of coherence between certain departments and/or intermediary organisations linked to the grocery retailer.

6.2.5.1 Silos and structural elements hamper collaboration

In the case of this grocery retail organisation, departments operated as separate silos with roughly a third of the product innovation managed by an intermediary organisation. Coordination and control did not follow a uniform system across all work units and teams were geographically dispersed. Teams that were not geographically scattered worked in a variety of offices and were not centrally placed in one office building. Fifteen of the 21 internal team participants, which constituted 71% of the participants, drew attention to aspects of fragmented teams and work conditions. The notion of fragmentation was articulated in the context of division (R15) and silos (R3):

- *'I kind of feel that there's two quite divisions in this business, there is fresh [products] and then there is non-fresh [products].'* (R15)
- *'I think we work in silos. HODs [head of departments] are aware of it...'* (R3)

Juxtaposed with a general impression of fragmentation or division, there seems to be a high occurrence of internal department closeness, described in the context of high availability (R3), familiarity (I5), praiseworthiness (I3), and competence (R1):

- *'Between the two of us, [name of colleague] and I always pick up the phone and say you know, this is happening or a quality issue, we're really good at that.'* (R3)
- *'I think for our immediate team, I would say we've got a very close-knit team, I think we're probably one of the stronger teams at least in terms of our relations to one another.'* (I5)
- *'But overall, I think in my team specifically, we're an awesome team, our buyers are awesome really.'* (I3)
- *'technical cluster, those relationships are fairly good.'* (R1)

Finding ways in which cross-functional collaboration can occur supports the innovation journey (Kim & Takashima, 2019; Tsai & Hsu, 2014). In confirmation of cross-functional teamwork, participants brought to light their attempts to increase teamwork via goal centrality (R4), fact centrality (R2), and exploring relational options to complete goals towards innovation (I6):

- *'For me, I think I'm a very neutral person. I listen to everybody's opinion and I'm like okay cool, what best works for our customer, for of all, and what best works for our product and also what's going to make us money.'* (R4)
- *'Yes, but you do need to talk with facts. So, the more emotion you put into it, the less... and I think once you've done it, or if you've done it once or twice, then they sort of see you as making a big thing about nothing, and then I feel people do fall into the category where they don't get the acknowledgement that they need.'* (R2)
- *'Honestly, if the friendly team-like aspect doesn't work, I usually just put everything on e-mail and make it a job rather than a relationship, simply put.'* (I6)

In addition to internal team participants iterating aspects of interdepartmental separateness, there were also two head office teams based in the Western Cape and Gauteng. The geographical separation of the head office was not along department or team member roles, and were described as challenging:

- *'So, they're in Johannesburg, that makes it hard. That makes it quite hard.'* (R5)
- *'Correct. Our team in Jo'burg [Johannesburg] is our buyers and - ja, our buyers are in Jo'burg, our planners are here. And we've also got some technologists up there [in Johannesburg].'* (R4). *'There was a lot to do in the first month [of a new product launch], because as I said, our teams also sit in Johannesburg and sit in Cape Town as well.'* (R4)
- *'And then [intermediary] will do the development and then the development goes through a test panel in Johannesburg.'* (R10)

Roughly a third of the product development was conducted through an intermediary organisation. The separation in terms of product development accountability was identified as causing team division (R15), and as disjointed and frustrating (R10), lacking context (R13), and disruptive (R1):

- *'It's a very interesting feature, and it's looking at it as a whole, it's a very dividing factor, and it's across a lot of different - ja, it's very interesting, you can really see a big - it's like the big divide.'* (R15)
- *'I just see this like flying screw, because basically what ends up happening, is [the intermediary] and the supplier, to all the discussions, and suddenly it's like okay, Christmas is what we're going to be doing. And then - so there is something like 20 products that you know I have to start working with, that you weren't even aware that was in the pipeline.'* (R10)
- *'I think, being in the inside, I see the challenges that bringing a company like that in, it's structure into our business is ...(indistinct). So, they brought business analysts in to do product development and those business analysts have no history or experience, and I think that just - it didn't fit, and it put a lot of pressure on the technical side of the business to be all of the things where those gaps in the system is, and it very much wasn't their role either, because they are not developers.'* (R13)
- *'I think that was very disruptive for the people that had to work with them, because internally they've had a lot of changes as well.'* (R1)

In turn, the intermediary participants frequently mentioned "us" (71 counts), "them" (170 counts) and "they/their" (653 counts), in reference to the retailer organisation. One intermediary participant

described the relationship with the internal team counterparts as undermining, the nature of the relationship as lacking appreciation, and interactions as conditional (I1):

- *‘there is always that kind of push and shove between the [the retailer] and [the intermediary], because they used to do it in-house and about four years ago, we got contracted to take it over. So, there is still a little bit of that kind of power-play, at times.’ (I1)*
- *‘You know, we often feel like we could do with some more appreciation.’ (I1)*
- *‘I think we see it from an outsider perspective.’ (I1)*
- *‘You know, for us being a contractor, even though we are within [retailer] and the work of [retailer], you know, we’re always an outsourced contractor, so you always feel that uncomfortable if we don’t deliver, and it might be one project that might create that perception. So, for us it is really about perceptions and landing those perceptions and creating realistic expectations which sometimes aren’t realistic.’ (I1)*

Other intermediary participants described the relationship as sometimes lacking teamwork (I6), dictatorial (I6), uncomfortable (I4), and difficult (I3):

- *‘And I want to be like, you know, I like working as a team, but also, not everyone is a team player.’ (I6); ‘Ja, and also, remember when it comes to [retailer] specifically as well, because they are the client, they can almost dictate to us what to do and how they want it done and we just have to get along and do it. But there’s difficult situations every...’ (I6)*
- *‘So, I work for [intermediary], we work with retailers to help them with various issues, primarily around own brand. So, sometimes you work with a retailer and they’re like why are we even doing own brand, and why are we here.’ (I4)*
- *‘Yes, which is also quite difficult at times.’ (I3)*

The disadvantages of fragmentation include delayed decision-making, long timelines to achieve innovation, and general lack of organisational learning (Kujala et al., 2016). The internal team organisational structure appeared to be divided and fragmented in the quest for optimal collaboration. Between departments, there seemed to be a lack of collaboration to achieve common goals. In addition, it emerged from the participants that the internal team connection with the intermediary organisation - despite sharing common innovation mandates and strategy - was disjointed.

6.2.5.2 Differential departmental performance objectives cause discord and a lack of alignment regarding the innovation strategy

Different departments exist for different reasons and need to adhere to different sets of performance criteria (Crossan & Apaydin, 2010). Accountability, defined as knowing what you are responsible for, is directly linked to innovation performance (Banu, 2018; Schillemans & Bovens, 2011). The performance criteria of a food technologist, in many cases, is different from the performance criteria of a product developer, marketer, store merchandiser or commercial buyer (Terziovski & Guerrero,

2014). Collectively, the individually met objectives contribute to the success of the innovation (Edison, 2013; Terziovski & Guerrero, 2014). The collaborative innovation process requires each role player to regard the contribution of team members as valid (Terziovski & Guerrero, 2014). An indispensable aspect of the innovation journey that is fulfilled by food technologists involves the safe production of products (Tufano et al., 2018). The food technologist participants echoed the critical role of safety assurance, describing it as critical (R5), unpopular (R5; R3), a guardian of compliance (R10; R6), and non-negotiable (R2):

- *'It's challenging from a technical perspective, because you are seen as somebody that doesn't generate money into the business. So, I feel like sometimes people don't understand how critical our role actually is, because yes, you can launch an amazing product, but is it actually going to work in the long term, is the supplier going to be able to put it out there, is it safe for the consumer, are we putting out the best product possible?' (R5)*
- *'I feel like I was looked at negatively, like just pulling the brakes and saying it's not possible, but I had to stick to what I - because I was the one that was going to have to sign it off and work with the supplier, and put out a product that I wasn't comfortable with. So, no. Today it's still no.' (R5)*
- *'But technical [department] is going no, flag, we're not doing, flag, flag, flag, [highlight as potentially problematic] and business [commercial department] is saying well, we want this, but what is - how do we get this.' (R3)*
- *'Often we will give them suggestions - say for instance they've decided that it's going to be something like a pastry - let's just, another example, they want to do a vegan product but the facility, they do all the excitement and the development and the tasting, and this is brilliant and then the technologist will have to turn around and say actually, sorry guys, you can't do it at that factory because it's not a vegan facility.' (R10)*

Product developers are tasked with the ideation component of an innovation or an upgrade to an existing product (Elg & Paavola, 2008; Ritala et al., 2009). Gee (1981) asserted that product innovation performance is defined by novelty and usefulness to the target end-user. Echoed by Thomas (1993, p. 7), product innovation holds at its core the essence of "need-satisfying". The manifestation of satisfying a need can be in terms of product structure, utilised technology, product features and repeat consumption of the same product (Edison et al., 2013). According to ..., matching product innovation trends and end-consumer needs with supplier production capabilities required coordination (R13), and time (I1). The process of developing products did not always follow a linear path. Linearity in the product development process is theoretical and not always realistic (Van der Ven et al., 2008), and therefore in stark contrast to a stage-gate system that requires sequential dominoes to fall in order that the next task in the innovation journey be completed:

- *'Everybody has their sets of priorities and their mandates and I think certainly as a PD [product developer] or as the manager, and also the project leads, you have to get everybody coordinated into the same headspace, and have the same drive going forward in what's - what we all need to achieve together with all of our expertise and that the customer is the most important thing that we need to have in the back of our minds.'* (R13)
- *'And beer also just doesn't just - you can't just brew beer overnight, you know, it's a process and it takes time and we're not happy with the formulation, and if we weren't and you ask them to reformulate and redo a batch, it's a three-week, four-week process.'* (I1)

Commercial buyers are responsible for price negotiations with suppliers to ensure a consumer-sensitive retail price, and sufficient profit margin for the retailer (Takashima & Kim, 2015). Commercial buyers are also tasked with the management of launch and subsequent order quantities or volume planning of new products (Sjoerdsma & Van Weele, 2015), ensuring store inventory is replaced prior to selling out of stock (Takashima & Kim, 2015). Commercial buyers ensure that the trading terms of engagement are negotiated and finalised with suppliers (Watson et al., 2014). In the innovation journey, the critical contribution of the commercial buying team is to ensure sale-through or sales performance, sufficient profit and achieving market share (Tsai & Hsu, 2014). As affirmed by the internal team participants, commercial buyers maintained their performance areas with rigid authority, lacking a sense of the bigger innovation strategy:

- *'The hardest part of the buyers is getting them to think beyond the buying, like getting them to think a little strategically about their category.'* (I4)
- *'a, the buyers do the ... And I think the biggest push-back with innovation is volumes and not really our target consumer, which it could be, but you also - ja. volumes is the main driver there.'* (I3)
- *'Ja, and at times it's almost the opposite as well. So, at times commercial wants to introduce stuff that's not really - it doesn't make sense from an NPD perspective, you know ...'* (I6)
- *'So, I had an instance where we had very good quality sugar bagasse plates and it's much better than your normal paper plate and it's high quality, and it took a lot of convincing to get the buyer to list the product because she wasn't sure that it will actually sell.'* (I2)

Once the product is developed in line with food hygiene and safety aspects (Terziovski & Guerrero, 2014), and in line with an end-consumer-aligned pricing strategy (Watson et al., 2015), other aspects such as product marketing still have the ability to hamper innovation success (De Clercq et al., 2011). The role of marketing in the context of a grocery retail environment involves demand creation (Court et al., 2009). According to internal team participants, the process of promoting the product or products to the appropriate end-consumer group was a key function of the marketing department:

- *'In other words, we could have a great product but the positioning of the product and support it gets in terms of marketing and store execution reality influences the success of the innovation.'* (R7)

According to the participants of the internal team sample set, the shortcomings of marketing support was relevant. There seemed to be disappointment in the level of marketing support for complicated products (R6):

- *'I think what - I mean, we've given through sort of a brief to marketing, if I had to say, I mean I don't know if that's any of your questions, but if I have to say you know, like it's been an intense year sort of changing things and innovation and whatever else, but in terms of marketing, we have given them the brief of what BB12 [product ingredient] and what the probiotic and what it all stands for, and we need to see it come alive, we need social media now to punt it, we need people to start talking about kefir and what it is and what the benefits are and what we've got. And so we - and also I am not 100% convinced that that's going - we've got that market embedded, bedded down. I sent it through, we've communicated it but.'* (R6)

The strong reliance on marketing was stressed by internal team participants in the context of 'dependence'. Participants R5 and I3 both mentioned the need to "shout" about it. Participant R3 lauded a product as exceptional, but saw its success being hampered by insufficient exposure to the ideal end-consumer of the product:

- *'So, ja, we can develop this most amazing product and it will be on the shelf, but we're not shouting about it, we're not letting everybody know it's actually there. Like it gets lots.'* (R5)
- *'I think for me personally, where I feel we're lacking short with own brand and innovation, is I wouldn't say the commitment from [the retailer], but the shouting about it, the marketing on it is minimal. Minimal.'* (I3)
- *'there was no marketing behind it, it - I took it on as it was finishing. I don't think we briefed marketing on it, I just think the thing landed on the shelf, no one knew what it was, do you heat, don't you heat it, the communication about it was terrible. The products didn't always travel well because the custard would smear on the side. So, it was just - from start to finish, I think, no one was ready for it. Beautiful product.'* (R3)

All the steps pertaining to development, price-appropriateness and marketing can be executed to perfection, and the journey can still be impaired by the manner in which the product is merchandised at store level (Cadwallader et al., 2010). There may be a failure to merchandise the product in the appropriate section of the store (Hennig-Thurau et al., 2006). The problem with inappropriate merchandising or display at store level was described by participant R5:

- *'And then also, stores might not be following through with the execution, they're not displaying it properly, they're not handling the product correctly, they're not adhering to the temperature controls that's required. For instance, our trifle, the product that we developed, was amazing, it's the traditional trifle, it's exactly what you make at home. We made it convenient for the customer to get. I mean, the pack size. And a simple instruction in store is do not stack it. If you're going to stack it, the lid pops in and the bottom pops up, it creates cracking and smudging. So, it's frustrating walking into a store and the product is stacked. The customer is not going to buy it.'* (R5)

Participant R13 mentioned the incorrect store position for newly developed products as hampering innovation:

- *'Which is soul destroying, or the pose is not up to support your launch, or it's merchandised in the wrong part of the store and it just it's not enough to get the product onto the shelf, there's so much more that has to happen, but you have to give and do and check.'* (R13)

In addition to the correct manner (R5) and place (R13), the pack-size could also hamper the success (R3). The aspect of product pack-size caused problems when a large product pack-size may be efficient from a transportation perspective, but a store manager was then required to wait until the product reached minimum levels before re-ordering the product.

- *'the lug sizes [product pack sizes] were too big, we had to make a plan with lugs, because you couldn't - there was no smaller lugs, so you had to order 16. We should have done maybe a mixed lug, and we didn't have that in place yet. The packaging maybe wasn't the best packaging choice, it didn't shout out on the shelf. It was just - I think every single thing about that product, as much as it was perfect to eat.'* (R3)

The innovation journey requires many role players to work in a collaborative fashion to collectively achieve innovation success (Mascareño et al., 2020). In agreement with the need for collaboration among role players, there was an acknowledgement of the complexity of the task (R13):

- *"To be honest, I sometimes feel it falls upon deaf ears, because the task is too great for our business. But getting products onto shelves on the right day in the right way with the right support by the right people is just too great for the business that we currently have. Systems and processes and people.'* (R13)

The innovation process involves many role players, each fulfilling different aspects and held accountable to different key performance metrics. Many of the respective key performance metrics emerge as contrasting to other team performance metrics. For example, a commercial buyer is held accountable for how products perform in a short-term time horizon. Product developers are tasks with product innovation that will satisfy consumer needs in the short-term as well as long-term. The entire innovation process can be as collaborative as possible, with supplier team members and retailer team members all working in unison, and at the final stage of merchandising the product, it can be placed in the wrong part of the store (as mentioned by R13). Failure to merchandise the products properly may capsize the entire endeavour, since the customer response to new launches is critical.

6.2.5.3 Unclear accountability structures result in confusion and complications

High levels of accountability, in-depth learning (Senge et al., 1994), and synergistic collaboration are some of the keys to organisational performance (Campbell & Goold, 1998). According to the internal team participants, there seemed to be a lack of clarity about who was accountable for which aspect.

The concept of accountability - specifically who was responsible - was described as helpful in the innovation process (I4):

- *'Because there is a lot of opinions, particularly when it comes to product approvals and taste profiles and design and like they'll get feedback on I like this or I don't like that, it's like okay well, it's not the kind of feedback you wanted, it needs to be more constructive, and there is a lot of opinions, and having a clear chart of authority or accountability or someone who owns the vision, helps.'* (I4)

Newly innovated products required senior-level executive sign-off, which was described as time consuming (I2). The process of waiting for senior manager approval was experienced as disempowering to middle managers (I2, R13), and the cause of feelings of insignificance (I2, R13):

- *'Because now the change has been that [senior executive name] needs to approve every single new product.'* (I2)
- *'Well, I think the decision-making process needs to happen much quicker and I think a lot of ownership of - must be given to certain individuals, that if they are in a position, they need to be made aware that they can make that call and make that decision, instead of waiting for all top management to make a call and then come back, it's very time consuming.'* (I2)
- *'It feels like there's a disconnect between the message reaching the top or the top are too important with other things going on and greater strategies that are at play in order for my role to feel significant in making enough of a difference.'* (R13)

A pervasive lack of clarity regarding accountability was described as causing uneasiness (R1):

- *'So, currently we do not really have a leader, which is quite - not discerning, but it's uneasy, because we don't have a direction as such at this point in time. So, we're still working towards what we set out before [senior executive name] moved into her new position.'* (R1)

In cases where team members are held accountable to multiple leaders, a dilemma develops in terms of managing different expectations and deliverables (Schillemans & Bovens, 2011). Internal team participants mentioned split-accountability (R3), where they were held accountable by two direct leaders, with contrasting key performance criteria. The different accountability components caused role confusion and complications in sufficiently achieving deliverables. The commercial buyer was cited to hold the final accountability (R3); however, there were a myriad of aspects that needed to be performed in unison in order to achieve innovation success:

- *'So, I've got a new HOD, [head of department name], she came in as a buyer last year into the team, and then she took over as HOD [head of department]. So, I have nothing to do with [senior executive name] anymore at all. So, that has been quite a change. But ja, I now have an HOD [head of department], and then I have a head of product, who is my direct boss, [head of department name]. So, I kind of work very directly with him and then she's kind of head of commercial and the whole category itself, he is head of product for the whole of fresh. So, he has the ultimate sign off of everything and she has the ultimate like commercial sign off of everything. So, it's kind of - its split between the two now.'* (R3)

- *'and then there is your buyer who is supposed to be the boss of the category that is supposed to give you the ultimate decision, but then there's other influences and then you don't know who to follow.'* (I6)

An unclear reporting structure caused confusion and instability in accountability, and the ensuing collaboration process to achieve product innovation deliverables. Six participants specifically referred to aspects of unclear accountability in reference to whom to be accountable to. Reporting to two different leaders necessitated the management of different expectations, which required managing a different set of deliverables.

6.2.5.4 The conduct of buyers influences internal and external stakeholder relationships

Commercial buyers are considered the custodians of commercial viability of products and services (Takashima & Kim, 2015). The grocery retailer commercial buyer's reputation has always been fraught with descriptors like 'difficult', 'powerful' and 'lacking compassion' (Hingley et al., 2015). Internal team members described commercial buyers as out of their depth (R1), notoriously difficult (I2), and "old school" (R8). The reference to an 'old-school' buyer relates to the fossilised reputation of commercial buyers to approach relationships from a position of power (Zhang et al., 2015) and being coercive towards suppliers (Low & Li, 2019), as was confirmed by eight of the 21 internal team participants:

- *'because we have a buyer that's out of - she's like a fish out of water, if I can say it that way, she's struggling and I think with her struggling, it's also causing the suppliers to struggle.'* (R1)
- *'but especially in our category, she is a very, very difficult, she is renowned for her being difficult in [retailer].'* (I2)
- *'I think that's the complicated part, you can't put an old school buyer with this new thing, she will just not work with it.'* (R8)

The fact that commercial buyers are globally and generally described as difficult (Hingley et al., 2015), mostly by suppliers (Gao et al., 2015; Sutton-Brady et al., 2015), caused further concern that in this organisation they were also exerting difficulty in their conduct towards internal colleagues. The mere mention of difficulty caused by commercial buyers (R5), in the context of strained relationships (R1; I6), as mentioned by internal team members, potentially added to the fragmentation described at this grocery retailer. A pervasive negativity led to internal team fragmentation, which hampered the success of innovation:

- *'It's very difficult at the moment.'* (R5)
- *'So, within the technical cluster, those relationships are fairly good, but then other people and their buyers, their relationships aren't necessarily that good.'* (R1)
- *'Buyers can be very difficult people, but I would say I've invested a lot in our relationship and I've given more than I've taken.'* (I6)

In cases where commercial buyers challenge internal teams, there is an upside in developing and perfecting innovation in order to have the best possible chance at succeeding (Hult et al., 2000). It may make commercial buyers unpopular, however, in viewing from the commercial buyer's perspective, these commercial buyers are merely fulfilling their core duty in achieving innovation success:

- *'So, we would sign off and we would be happy, like [colleague name] and myself, but then it goes to the buyers and the buyers are like no, it's too expensive, then we go back and then we try and tweak and then it's crazy.'* **(R5)**

Some internal team participants also reflected on a new guard of commercial buyers who were younger, who had been employed by the retailer for a shorter period of time, and were operating in a different manner from the 'old school' buyers mentioned by participants from the same internal team sample group. A new guard of commercial buyers were described as more open to innovation (R15), approaching their task with newness (R8), and having a collaborative approach (R11):

- *'I like to think that the younger generation are definitely more open to innovation and want it and crave it and understand it, whereas your more old-school.'* **(R15)**
- *'So, the younger generation is definitely going to be the one that's going to change it, because there's going to be a new way of doing things.'* **(R8)**
- *'Once again, I need to talk about what is old and what is new. So, the old method of doing it, would never have covered a conversation where it says this is a mutual conversation, it should be more about - it's either supplier pushing up, saying I have a good product, how would you list it and (indistinct), or it would have been a conversation of we want to do this, let's go and do it.'* **(R11)**

Commercial buyers have rudimentary performance criteria that require the pricing strategy to be in line with an optimal end-consumer response and sufficient orders placed and supplied by suppliers (Sjoerdsma & Van Weele, 2015). The price needs to be the correct price and there needs to be availability at store level. The motivation for commercial buyers to be tough seems to be fuelled by the knowledge of their reputation of being tough. According to the responses of internal team participants, commercial buyers behaved in confirmation of the existing literature, with some younger commercial buyers team members exhibiting behaviour that contrasted with the behaviour of older more established commercial buyers.

Since innovation leadership is essentially about manoeuvring the innovation journey, through risk management, uncertainty reduction through solid decision-making, championing and influencing the team, and achieving innovation objectives (Van de Ven et al., 2008), the fragmentation in terms of relationships indicates a potential lack of innovation leadership. Aspects such as clear accountability, structural separation, divergent departmental objectives in the absence of a general cohering innovation strategy and relational power-plays indicate a shortfall in appropriate leadership.

6.2.6 Theme 3: Unaligned collaboration to achieve end-consumer relevance impairs innovation performance

Product innovation performance, in the context of this study, was considered successful when there was a positive end-consumer response to innovation (Midgley, 2009). An innovation journey is embarked upon by moving through conceptual to execution phases (Cooper, 1990). Consumers are made aware of the product or service through marketing (Albors-Garrigos, 2020) and/or store-merchandising efforts (Breuer et al., 2014), and the product or service is either purchased or left unpurchased. Owing to the value of shelf-space versus opportunity cost, a product cannot occupy space indefinitely (Udokporo et al., 2020). If the product does not achieve a positive end-consumer response, the space it occupies needs to be utilised for a better performing product (Pourhejazy et al., 2019). Therefore, it is critical to the initial concept phase of the innovation journey to prioritise a positive end-consumer response from inception (Breuer et al., 2014). Innovation, as described by the internal team sample group, seemed to be unaligned in terms of the time horizon of achieving immediate commercial success, while investing in the future of innovation. There seemed to be a misalignment in terms of what constituted innovation. A pervasive comparison to other grocery retailers also contributed to a lack of understanding of own end-consumers and/or may have indicated a lack of pride in own achievements as an organisation.

6.2.6.1 *The time horizon of innovation performance needs to balance the immediate and future innovation strategy*

There are immediate end-consumer needs that require solutions as well as future end-consumer needs to be met (Breuer et al., 2014). The focus on successfully meeting these immediate needs may in some cases be in direct conflict with meeting future needs (Dziersk et al., 2018). Organisations that possess ambidexterity can successfully innovate using new knowledge, broadened knowledge, new opportunities and existing core knowledge (Cantarello et al., 2013). The resources and methodology required to meet current needs necessitates manufacturing to be most efficient in order to produce at the lowest price and retail at the best profit margin for a particular product (Ganesan et al., 2009). Understanding future product needs requires a different lens (Pietersen, 2002). The tension between achieving success now, versus gearing for the future, is a tangible dilemma (Pietersen, 2002). The disconnect was described by participant I1 - satisfying the immediate need versus how innovation should be in the future:

- *'So, what we've done as [intermediary], we've done a lot of Me-Toos [imitated products], you know. So, often we'll bring really cool innovation and it just gets shot down, you know. So, it is that kind of line between what commercial wants versus what's the strategy of the business going forward, and that's where we often find quite a disconnect.'* (I1)

Participant R11 described end-consumer relevance as achieving a ‘sweet spot’ that included realism and sustainability. Since the sustainability aspect was achieved by not simply satisfying the present, but ensuring the future horizon, was included in the innovation performance strategy:

- *‘Invariably it’s finding the sweet spot around how far we go in terms of development, and what is realistic from a commercial point of view, and what is sustainable.’ (R11)*

A product developer (I1) described the quandary in terms of: (a) commercial buyers prioritising immediacy; versus (b) the development teams focusing on intrinsic product aspects being correct:

- *‘But for us also, there’s a massive disconnect between driving innovation and what commercial wants, you know. So, commercial often also just wants product and they just want to get it on the shelf and sell it. Whereas technical and innovation would speak more towards well, the product has to be right, it has to be the best quality, blah-blah-blah.’ (I1)*

The acknowledgement of maintaining the installed base on innovations at 80% was juxtaposed with a 20% that should be reserved for newness (R15):

- *‘which is all wonderful innovation, but actually you’re wanting to keep it quite simple, and we’re all for that, innovation needs to be 80% recognised and 20% sort of new, otherwise you’re going to, especially in the retail, old school retail setup, you can’t - you don’t want to scare the customer off.’ (R15)*

Achieving commercial viability through a repeat consumer purchase is critical (Kunamaneni et al., 2019). By focusing solely on future developments, the ability to satisfy immediate end-consumer needs may be disabled. However, the innovation strategy requires a future focus or pipeline of future innovations to ensure that overall relevance is not only short-term success. The internal team participants confirmed a lack of alignment on when to focus on the short-term immediate horizon, and when to focus on understanding and developing for a long-term future time horizon.

6.2.6.2 A divergence in the definition of innovation results in unaligned and unoptimised product innovation

The end-consumer base or market of this particular grocery retailer was vast, ranging from low-income households to high-income households, and several end-consumer segments in between (Lappeman et al., 2020). The typical end-consumers of this retailer were not a homogenous segment of the market that earns, spends and lives similarly (Ngouapegne & Chinomona, 2019). Instead, this grocery retailer served the spectrum of South African grocery retail consumers ranging from customers that were budget-constrained, to the middle-level consumer group with slightly more disposable income, to a consumer bracket with vast disposable income (Makhitha & Khumalo, 2019). While the three consumer groups serviced by the retailer may contain generalisations, these

groupings typically enabled one to grasp the extent of this grocery retailer's innovation challenge to service such a range of end-consumers. It was not simply a case of 'one-size-fits-all', but rather a grapple with consumer segments that required fundamentally divergent product approaches. Participants R1 and I1 referred to a "wide consumer net" (R1), and dealings with a "broad spectrum" (I1):

- *'We're straddling quite a wide consumer net.'* (R1)
- *'So, we really do deal with the broad spectrum.'* (I1)

A vast spread of consumers (R1) made the task of matching innovation to end-consumer needs a challenging innovation performance deliverable. The end-consumer economic diversity was not matched with cultural diversity (Makhitha & Khumalo, 2019). The end-consumer diversity was observed by participant R8 and participant R5:

- *'is you do find that with some of the development that's taking place, is that we are losing the ethnic taste profiles, and we have to be very careful.'* (R8)
- *'Ja, for us it's difficult in convenience, because you don't necessarily target budget customers in convenience, because are the budget customers actually interested in buying convenience?'* (R5)

A grocery retailer establishes its innovation identity to attract and satisfy specific end-consumer segments (Das Nair, 2019). Some grocery retailers present product innovations that are considered brand new, while others may focus primarily on incremental product improvements (Albors-Garrigos, 2020). A vast and diverse consumer base made it challenging to pick a singular aspect to achieve market recognition or acclaim (I1 & I4). A lack of innovation identity was also mentioned by a participant in the context of attempting to be "everything to everybody" (R1):

- *'you know, [the grocery retailer] is trying to be everything to everyone, and I think it's really difficult, you know, [another retailer] have picked meat and they've picked cheese and they've picked wine, you know, that's what they're famous for.'* (I1); *'I think the biggest problem is [retailer] doesn't know who they are.'* (I1)
- *'Up until this year, they did not know what they wanted to be famous for. They started to create this list of products and categories that they wanted to be known for, but I still think it's too wide.'* (I4)
- *'We should decide who we are and develop according to that and not try and be everything to everybody.'* (R1)

'First-to-market' products are known as pioneering, be they in a specific category or disrupting the product's format (Dziersk et al., 2018; Teece, 1986). For a brand and product to be the first of their kind in the mind of the end-consumer holds a place of curiosity, admiration and fame (Cantarello et al., 2013). Despite the allure and regular use in the context of general innovation, 'first-to-market' innovation is not a metric for the innovation performance success of all organisations (Dziersk et al.,

2018; Teece, 1986). Participant R15 echoed the notion that the team had an insufficient understanding of innovation, and in the next section of the interview made a contradictory statement regarding ‘first to market’ as a goal. The notion of a ‘fast follower’ was mentioned by participant I4 in an adverse context, which echoed a prevailing misunderstanding of innovation performance:

- *‘I’ve been quite disappointed by how people understand innovation.’ (R15)*
- *‘I mean, it is sort of the focus of where we are, but it’s then understanding what is innovative product development, and what is, you know, just Me Toos [imitated products], or just really bad kind of.’ (R15)*
- *‘that’s a clear example of innovation where we would have been first to market, no other retailer has a kefir product, but if you’re going to do it, I don’t know, I believe that you’ve got to do it properly. It’s not worth ...’ (R15)*
- *‘So, I wouldn’t say that [retailer] is a leader in innovation, because it’s not yet. I mean, they aspire to be, but they’re definitely more of a fast follower at this point.’ (I4)*

The aspect of newness as an assurance of innovation success was echoed by a senior executive team member. Newness did not equate to success (R11), but rather satisfied a customer need in the immediate, medium or far future:

- *‘there is quite a misconception that innovation immediately means new, when I think innovation in the context is about meeting a future need, current or future need in a way that translates to customers.’ (R11)*
- *‘but essentially you know, it’s not a question of I’m going to enable newness, because that doesn’t really translate into something that is going to be commercial.’ (R11)*
- *‘ultimately you need to serve a current need, and sometimes in the spur of trying to be innovative, you lose sight of what is the commercial fundamentals of the business that are immediate.’ (R11)*

Two participants mentioned the two most senior executives’ lacking a sufficient grasp of the end-consumer, which posed potential difficulty in agreeing upon an organisation-wide innovation strategy:

- *‘where [senior leader name] admitted that after five years, that was the first time that he really got an income disparity in South African consumers, five years. I’ve been - I joined four months after him, and I’ve been drilling it in every single meeting with him.’ (R8)*
- *‘But in general, I don’t think that they’re thinking always about the consumer, it’s a lot of what does [senior executive name] want, you know.’ (I4)*

The manner in which a team defines innovation will echo all aspects including strategy, key performance criteria and, as a result, innovation success (Crossan & Apaydin, 2010). In the case of the internal team participants, there seemed to be a confusion between newness and end-consumer relevance. Newness, per se, is not an assurance of product innovation success (Van de Ven et al., 2008). The end-consumer may, in some cases, be best served by incremental innovation (Höyssä & Hyysalo, 2009). The notion of disruptive innovation ties in with a modern belief that unless it is

innovation with a disruptive and pioneering lustre, it is not considered innovation (Gallo, 2011). The internal team participants described the purpose of the organisation's innovation in a way that indicated misunderstanding of their end-consumer. Since innovation performance was fundamentally a matter of end-consumer traction via purchasing and re-purchasing of products, the misunderstanding by internal team participants was evident in their descriptions. If there were end-consumer traction, it was less important whether the grocery retailer was first to market or not. The measure of success was not in launching the innovation before any other grocery retailers.

6.2.6.3 A lack of pride in own brand leads to unoptimised product innovation performance

One organisation's end-consumer base cannot be transposed to that of another without high certainty that the two organisations are sufficiently similar (Makhitha & Khumalo, 2019). The internal team participants confirmed a misunderstanding of their organisation's end-consumer in the form of the prolific comparison to other grocery retailers' innovation performance or approach. The comparison indicated that the grocery retailer of this study had a flawed grasp of their own customers. Among the responses of the internal team participants, there were 217 mentions of another grocery retailer in the context of innovation. The 217 mentions were divided among four other South African grocery retailers and spread across 17 of the 21 participants from the internal team participants, which constituted 80% of the participants. It is recognised that 'benchmarking' is a key component of the innovation journey (Main & Jacob, 1992). It was also recognised that there may have been admiration for the manner in which other grocery retailers approached their innovation journey (R15, I5 and I4):

- *'So, we're not there yet, I don't think we've got a strong strategic supplier network like the acts of [another retailer] do.'* (R15)
- *'So, I always look to see what the [another retailer] and the [another retailer] etcetera are doing or have done, and just say well, look, it's not something that we've done before, it's something completely innovative.'* (I5)
- *'Ja, they think a lot about other retailers and benchmarks, and benchmarks is a very important tool in this whole process; in the design, in the product quality, in look and feel, everything, into artwork developing, it's kind of like hey, what is everyone else doing.'* (I4)

However, in the case of this grocery retailer, there seemed to be a misunderstanding about what constituted innovation success. There seemed to be a preoccupation with innovation and imitation. Participant R5 exclaimed with pride that there was something the other retailer copied:

- *'And it's something that [another retailer] copied us with for a change.'* (R5)

The aspect of imitation was juxtaposed with the replication or imitation in innovation that was normally conducted by the grocery retailer of this study. Participants I6, I1 and I3 admitted to the disconnect between end-consumers of different grocery retailers:

- *‘Honestly, I feel like we’re replicating too many [other retailer] products, and I feel like we’ve so focused on [other retailer] that we’re forgetting who the [retailer] consumer is.’ (I6)*
- *‘And I think the concern is when we always benchmark ourselves against a [other grocery retailer name], you know, they are a very top LSM [living standards measure].’ (I1)*
- *‘the saddest thing is to walk into [other retailer], for myself, because I see all these things and I’m like ... (sigh)...but I know also it’s not the same consumer. So, in my mind I’m still very cognitive of it, but at the same time it’s like oh, I wish I could have had that, you know what I mean? But I have to think a bit further, to say okay, my consumer, yes, I might sell 500 a year, but is it viable for the supplier? No, it’s not. So, I need to - I don’t want to put people out of jobs as well, I don’t want to put suppliers into financial issues.’ (I3)*

Another admission by participant I5 described the catch-up game in terms of innovation performance, which negated the actual focal point of innovation success, namely satisfying the grocery retailer’s own end-consumer base:

- *‘Look, for the most part we are still playing catch up, so [another retailer] is a bit ahead of the curve.’ (I5)*

The frequency with which internal team member participants mistook their own end-consumer for another retailer’s end-consumer was evident throughout this subset. There also seemed to be a pervasive lack of pride in own organisation’s innovation output. A prolific comparison with the innovation performance of other grocery retailers pointed to a sense of inferiority and inadequacy.

6.2.7 Theme 4: Varying styles of innovation leadership does not translate into a culture that prioritises innovation

Innovation leadership involves many players with “difficult-to-reconcile stakes and a multiplicity of interactions”, which is simplified when the leader ensures strategy, structure, resources, learning and culture aligns with innovation goals (Hueske et al., 2015, p. 46). Innovation leaders: (1) cultivate team solution-finding; (2) work systems; (3) incentives and rewards; (4) role scoping; and (5) the organisational structure to support innovation (Mumford & Licuana, 2004). From the internal team participants, it was apparent that there were some highly impactful leaders in the grocery retail organisation. Evidence of impactful leaders was juxtaposed with other leaders who were described to behave in ways that had a negative effect on their followers. From the data there seemed to be both a positive and negative leader impact on the organisational culture. The strategic direction provided by leadership regarding innovation goals seemed to be incoherent in many instances.

6.2.7.1 An incoherent culture of collaboration and innovation affects morale and focus

Ideally, where many role players are involved, there needs to be decisive leadership to enable a trickle-down to all team members to ensure maximum alignment (Hult et al., 2000). The alignment of a team

ensures that the innovation journey is completed in unison (Mumford & Licuana, 2004). Each role player fulfils such an essential part in ensuring the final product is successful (Midgley, 2009). The importance of each team member was echoed by the internal team participants in the context of a unified strategy (I4), and a unified team (R11):

- *‘Ja. I mean, I think it’s really important that there is like one vision and one mission, and in particular this year, there is a lot of people getting involved.’ (I4)*
- *‘it’s not necessarily that we talk about developers and we talk about commercial teams. In my mind it’s more about all those disciplines coming together to identify and understand what is going to be, and how you translate that.’ (R11)*

Aligning the innovation strategy with the innovation end-goal is considered essential (Khan et al., 2009; McLaughlin et al., 2002). The alignment of strategy and goal enables other organisational components to be tweaked to gain maximum advantage (Khan et al., 2009). Examples of these elements include work environment, incentive structures, supervision style and other organisational culture aspects (Prange & Schlegelmilch, 2010). Since the presence of an explicit innovation strategy is directly linked to innovation outcomes (Crossan et al., 2008; Gumusluoglu & Ilsev, 2009), the assumption of the converse is that the absence of an innovation strategy will have negative repercussions on innovation outcomes. In cases where there is an absence of an innovation strategy, rudderless work ensues, causing innovation failure and/or random product launches (Cooper, 2011). Several accounts by internal team participants described a severe lack of unified strategy. Instead, the strategic direction was described as absent (I4), lacking clarity (R15), and lacking a future focus (R6):

- *‘There was never a true vision of what we’re trying to do with innovation own brand and new products.’ (I4)*
- *‘I’m speaking so like sort of tactically at the moment, but there hasn’t been enough sort of strategy or long-term planning to really say.’ (R6)*
- *‘There is no clear plan, and it’s everyone just sort of chasing their tails and getting stuff done, because it’s, you know, I’m busy, not even real true innovation.’ (R15)*

According to Blois (1985), reactive product development generally involves a degree of imitation and, when done without certainty of transposed success, can lead to a high likelihood of failure. One participant likened the innovation journey to “chasing a tail” (R15). The effect of futility was evident in many accounts of wasted time and resources. Some of the repercussions of this absence of a coherent strategy was described as reactive product development (R15), lack of clear accountability (I6), and demotivation of teams (R5):

- *'and its often reactive development as opposed to a real strategy behind the development, a real strategy around what is the innovation that we're wanting to do, what is the kind of development. There is no clear plan, and it's everyone just sort of chasing their tails and getting stuff done, because it's, you know, I'm busy, not even real true innovation.'* (R15)
- *'In all honesty, we don't really have much of a strategy from a technical point, and I feel like our vision going forward is not something that motivates me to want to be a partner, because it's slow.'* (R5)
- *'And the reason why I say that, is because recently there've been so many new people brought into the business that there is a lot of heads and there is not one clear direction. At times it's like a certain individual gives us direction and then there is a new person who gives us another direction, and then there is your buyer who is supposed to be the boss of the category that is supposed to give you the ultimate decision, but then there's other influences and then you don't know who to follow. So, I do feel that there could be much clearer direction.'* (I6)

Organisational demotivation, according to Falout et al. (2009) creates within itself a negative spiral which is very difficult to reverse. Once demotivation has rippled through the organisation, remedial initiatives require substantial commitment and thorough follow-through to avoid a deeper set-in of the demotivation spiral (Falout et al., 2009). Prolonged demotivation leads to fossilised demoralisation, which becomes deep-seated and requires fundamental change management initiatives to rectify (Falout et al., 2009). Among the internal team participants, a general lack of motivation extended to a lack of bandwidth, and members were overextended and overloaded beyond capacity:

- *'Yes, and if there are enough people to do those things or not enough people to do those things, it doesn't - it feels like it doesn't really matter, they're just people and they must do the things and get it done, or a nice term that they like to use is "get creative". So, when everybody is overworked and at their maximum capacity and it's going like flat, we're told to get creative, there is more that needs to be done.'* (R13)
- *'Yes, and there is only so much that I can get my team to do. And then it gets to a point where I become the point at which, personally, I can't get them to do any more, and I don't feel okay instructing them to do more ...'* (R13)

In another instance, a participant described a senior executive requiring a time-sensitive product to be developed (I1), which was unrealistic in terms of the minimum time required for processes to be completed:

- *'No. Well, in instances, so right now [senior executive name] wants his own brand of beer, and it's summer and we're nowhere close to having an approved product. And he's just not accepting it. So, we're trying to pull a rabbit out of the hat to try and make it happen.'* (I1)

Participant I4 pointed out the unrealistic expectations by the same senior executive in a different context:

- *'So, [senior executive name], if you've had any interaction with him, I'm sure you've already, here's very prescriptive on what he wants, when he wants it, how he wants it, and it's like no one really says no. So, that's good and bad. It's good because it does create this clear objective of what we need to achieve, but it's bad sometimes, because you don't get everyone on board.'* (I4)

The literature supports the celebration of both failure and success (Hammer & Champy, 1993; Torrissi et al., 2018). Failure to celebrate success contributes to demotivation (Falout et al., 2009). In cases where innovation success is celebrated, there is an effect of confidence and a feeling of competence, leading to motivation to achieve future innovation success (Falout et al., 2009). In cases where success was achieved at this retail organisation, the culture of celebrating success seemed to be absent. A general sense that acknowledgement was lacking (R2), with specific successes either ignored (R3), or not recognised or generally celebrated (R4 and I4):

- *'I feel people do fall into the category where they don't get the acknowledgement that they need.'* (R2)
- *'For example, my juices which I did, that range of cold pressed juices, they won Product Innovation of the Year for [retailer], I didn't even know. I worked on it for a year.'* (R3)
- *'because I don't know if you know that most of their products won [top newspaper awards], so I mean, we're up there, and like.'* (R4)
- *'But we just launched them and its technology that was modelled after what [competitor] is doing in Europe, and we brought it here before [competitor] brought it here. And it's like these magical tubes and it helps absorption and it helps reduce leakage and all the stuff. Now [retailer] has started to roll it out. We just rolled ours out last month, so it's (indistinct). But that supplier is leading innovation.'* (I4)

A robust innovation culture stems from strong innovation leadership (Fagerberg, 2005). Leaders are responsible for creating the necessary initiatives to promote innovation (Tsai, 2009). Innovation leadership at this retail organisation seemed to fall short in the area of managing team morale via a collective innovation strategy, the roadmap to achieve it, and celebration of successes.

6.2.7.2 Transformational leaders have a positive effect on their team members

Transformational leaders embody key behaviours, with a positive effect witnessed in followers (Siangchokyoo et al., 2020). To be regarded as a transformational leader, it is insufficient to embody traits without witnessing a positive after-effect in followers (Mills & Boardley, 2017). A few leaders were described by internal team participants as truly transformational in their behaviours towards their followers. One participant described their leader as exceptional and incomparably visionary (R15). Another description included authenticity and visionary with a reference to the rareness of a true leader (R10). Participant R8 and R3 described the charisma and impact of a particular transformational leader:

- *'I don't think there is anyone quite so visionary as [senior executive name] in the business.'* **(R15)**
- *'And now she's general manager of the technical. She is a true visionary and a true leader.'* **(R10)**
- *'For instance, last week they had a workshop on innovation, [senior executive name] had a workshop in Johannesburg, and every time that [the senior executive] runs a workshop on what's new, you just see everybody's eyes lit up.'* **(R8)**
- *'I always said that [senior executive] is one of the most inspiring people that I have ever worked with.'* **(R3)**

According to Bennis and Bierderman (1997), even in challenging organisational settings leaders that are transformational in nature become prominent sources of hope. These leaders enable individuals to overlook organisational shortcomings and still achieve goals (Popper et al., 2000), which also aligns with leader-member exchange theory that proposes the bridging function being fulfilled by leaders in a difficult organisational milieu (Bass & Riggio, 2006). In the absence of a coherent, organisation-wide innovation strategy, the substitution role played by an engaging executive leader can be very positive, as described by participant I4 and participant I1, by providing clarity (I4), and a roadmap (I1) to achieve innovation goals:

- *'[senior executive name]'s role is cool, and [name]'s role is actually helpful, because it's helping to clarify what - I mean, very honestly, it was not always clear what people wanted, and she's really - she sees that and she's like okay, trying to get some clarity around stuff. So, the way that I like to manage the situation, is okay, what are we trying to achieve.'* **(I4)**
- *'So, ja, I mean, she's brought in a different aspect and a different thinking in terms of how we work with innovation and how we drive innovation, how we communicate innovation to the business, because it's not always just a purely commercial model, it's sometimes also about attracting feet into the store. So, it's actually been really positive. I mean, she brought a little bit of a different perspective to the whole team and to the whole business.'* **(I1)**

Individual consideration is a fundamental dimension of transformational leadership and is demonstrated in the form of acknowledging individual needs and individual development (Cho & Dansereau, 2010). A leader-member exchange relationship involves the development of a "shared code" between a leader and follower (Rass et al., 2013, p. 181). The benefits of the development of a 'shared code' are efficiency and efficacy in achieving innovation goals (Von Hippel, 1988). Over time, there seemed to be the development of a 'shared code' with a leader (R4):

- *'So, our relationship, it's amazing, like I mean, I know what [name] wants, [name] knows how I am and how I work, so [name] will just tell me something and I know exactly.'* **(R4)**

Individual consideration is one of the attributes of a transformational leader (Ling et al., 2008), which shows up in the manner in which personal interest is taken in the follower team members (Ergeneli et al., 2007). Modelling the way, according to Kouzes and Posner (1987), enables follower inspiration and motivation, which ultimately leads to greater innovation output (Wolcott & Lippitz, 2010). The internal

team participants describe a strong mentoring impression and impact that was left on a follower included optimised learning (R3) and the inspiration or challenge to improve (I3). A competent leader set an example for followers to emulate (R10 and R13):

- *'And her hunger to learn and teach and inspire and her food is just absolutely incredible, and so I came across here because I wanted her mentorship. And it's exactly what I got with her, she has taught me so many things over the years that I have been able to work with her.'* (R3)
- *'[head of department name] is amazing, he sometimes pushes for more, which is not always possible.'* (I3)
- *'And I also have an incredibly supportive and very clued-up boss, [senior executive name], you'll meet [name], [name]'s incredibly clued up and [name]'s very, very diplomatic but I mean [name]'s also very on the ball.'* (R10)
- *'And I think, you know, you can't lose if you have a leader like that, and as a manager, having a boss like that, I have never been in a managerial role, I suppose, before, learning from a person like that was really great, because it allowed me to glean on her strengths that she has, and being empathetic towards the people that I was managing, having a - learning that different people have different managing styles and also understanding the business needs and how to meet those. So, from that perspective she was an excellent person to be mentored by.'* (R13)

To summarise, transformational leaders were highly impactful, as contributed by the internal team participants. The effects of transformational leaders included high levels of motivation and context where in some cases there was none. Followers of transformational leaders from the internal team participants indicated a remedial role conducted by their leaders. Where other leaders acted in a transactional manner, the effect of the transformational leaders were able to alleviate work related obstacles and performance goals to be met. In situations where there was an absence of ideal organisational culture and a lack of innovation strategy, transformational leaders could play an impactful bridging role to provide direction and context. The positive effect of transformational leaders described in the qualitative subset affirms the positive relationship between transformational leadership and internal leader-member exchange in the quantitative findings.

6.2.7.3 Leaders with transactional leadership traits has an adverse effect on team members

Transformational leaders embody high levels of charisma, distilling a high sense of purpose, confidence and determination (Popper et al., 2000). Transformational leaders inspire pride (Ling et al., 2008) and challenge teams to achieve (Ergeneli et al., 2007). It is feasible for a leader to embody charismatic traits while simultaneously undermining the other dimensions of transformational leadership, such as individual consideration or fostering acceptance of group goals (Mills & Boardley, 2017). The internal team participants confirmed the presence of a senior leader who was highly charismatic while being highly disruptive. The erratic leadership style caused strategic as well as day-

to-day task navigation difficulties. Participants described the leader effect in terms of magnitude of change (I2), challenging the status quo (I1), and brand pride (R10):

- *'[Senior executive name] is the new [senior role], since he came on board, he really made a lot of changes and a lot of more focus on own brand. Before that time, we didn't have the support that we were asking for.'* (I2)
- *'Ja. I think it's happened a lot with [senior executive name] coming into the business now. So, I mean, he's already started shaking the tree and started really ruffling everyone's feathers, and he wants everything yesterday, you know. He's a highly ambitious man.'* (I1)
- *'I used to walk in, and that's a big change I found, I used to walk in and look for my products. Now I walk in and I see my products. So, that's the excitement, that's something that's really - and that's through a [senior role], that is supporting own brand. That's for the first time ever I would say.'* (R10)

The aspect of challenging teams to excel and achieve beyond their comfort zone is a hallmark of transformational leadership (Popper et al., 2000) and acts as a necessary innovation champion (Howell & Higgins, 1990). The disruption of a follower's comfort zone also aligns well with leader-member exchange theory that purports the value of the leader role in providing the motivation to see a positive bigger picture (Zhu et al., 2009). However, according to internal team participants, certain production processes required time, and no amount of pressure could fast track, for example, natural fermentation processes, like the beer-making process (per participant I1) or the wine-making process (I4). Along with the approach of challenging the status quo, came unrealistic expectations, as is outlined by participant I1 and participant I4:

- *'Well, in instances, so right now [senior executive name] wants his own brand of beer, and it's summer and we're nowhere close to having an approved product. And he's just not accepting it. So, we're trying to pull a rabbit out of the hat to try and make it happen.'* (I1)
- *'But [senior executive name] was saying where is the wine, where is the wine, where is the wine.'* (I4)

General pressure to achieve in constrained time frames, expediting projects and sense of impulsive haste were mentioned by participants R8, I6 and I4:

- *'And I said to them I think a lot of my team members would say that they can handle almost all the pressure, but not this last-minute dot com.'* (R8)
- *'I would say bad because everything is rushed, and I feel in order to be thorough, you almost need the time to go through things like intrinsically and thoroughly, because what I've noticed, is we've committed to dates, but when it goes to like technical for them to like review, it always comes backward (indistinct), then we go back and forth, back and forth.'* (I6)
- *'that's just the [senior executive name] effect, and what he's doing, and everyone is just learning to adjust, which is part of the reason my day was so hectic, is because I've got like 10 messages from him, saying where is this, where is this, where is this and I'm just running around, trying to get the stuff.'* (I4)

- *'he's one of those guys he's now-now-now!' (I5)*

In conflict was the erratic leader behaviour found by that at times placed severe time pressure on team members, and at other times was the source of the bottleneck in causing delays in required re-working of developments (I2, I6 and I5) and delays in decision-making owing to postponed meetings (I2):

- *'So, you will constantly go back and forth, back and forth.' (I2)*
- *'There's also the back and forth.' (I6)*
- *'Ja, and I think we've gotten there now after a good couple of months of trying to get this process right and present it to [senior executive name] and just getting rejection, rejection.' (I5)*
- *'And they've got weekly meetings with [senior executive name], so they either present on a Wednesday or on a Friday. Sometimes he has got other meetings, then it will just shift to the following week.' (I2)*

The level of micromanagement in the business is evident in that final product sign-off of every product is done by one of the most senior executives. A culture of micromanagement causes a lack of autonomy and confidence (Basu & Green, 1997). The effect on middle managers is lack of confidence in decision-making (Cheong et al., 2019). Some accounts by participants in the internal team confirmed that innovation approvals occurred at the highest executive level (I2). Several changes were often expected to occur at the very end of the innovation journey, requiring a 180 degree turn in the opposite direction (I2). Participant I6 revealed that even the smallest decision, like acceptance of final artwork, was signed off by a senior executive.

- *'So, nothing just goes through, every new product needs to be seen by himself and the same with the artwork.' (I2); [senior executive name] needs to approve every single new product.' (I2)*
- *'There's other factors. So, for example, if we need an artwork approval, so [junior HOD] can comment on it, but at the end of the day, it's a [senior executive name] decision to make.' (I6)*
- *'We've had of late where some of the products were actually at printing stage. So, it's the product itself, the inner side of the product and the outer packaging was approved and it was ready to print, and it stopped right there. And a new vendor was put in place to supply the product, and the packaging was completely redone. And it was actually launched a month ago, the product. And that was being pushed for - from - they kept to the four months, come hell or high water, they kept to the four months.' (I2)*

The product sign-off process involved lots of deliberation (I2 and I6), rejection (I5), and delays (I2). The requirement of high-level sign-offs had two significant adverse effects on the leader's followers, namely: (1) detrimental effects of micromanagement; and (2) sign-off delays reducing the time horizon to complete the innovation, thereby adding additional pressure.

- *'They will take ages to actually get any type of feedback from [retailer]. So, you will constantly go back and forth, back and forth, and now with him putting into place before the financial year a certain percentage of market share that needs to be going by own brand, and everybody is involved, the focus shifted to own brand.'* (I2)
- *'There's also the back and forth.'* (I6)
- *'Ja, and I think we've gotten there now after a good couple of months of trying to get this process right and present it to [senior executive name] and just getting rejection, rejection.'* (I5)
- *'And they've got weekly meetings with [senior executive name], so they either present on a Wednesday or on a Friday. Sometimes he has got other meetings, then it will just shift to the following week.'* (I2)

According to Blois (1985), the type of innovation an organisation wants to pursue needs also to align processes to enable the successful delivery. On a practical level, delays in launching products further cause loss of market opportunity and concomitant economic benefits:

- *'I mean those rejections held up a range of Lindt equivalent chocolates that I was trying to launch and it was held up by three months just because the look and feel wasn't approved. So, now it's not launching this year, it's next year.'* (I5)

Strategic decisions, at times, depend on a senior executive's whims rather than on a logical understanding or on achieving buy-in through a coherent strategy. A lack of rationale coincides with the work of Lindholm (2002) in reference to whimsical or irrational leadership. According to internal team participants, some rationales for decisions were reduced to blaming the leader (I4), not considered strategic or aligned with commercial success (I4), and described as a "black hole" (I5). Decisions were made because "the leader said so", as opposed to adopting a rationale that made sense to followers:

- *'but it's bad sometimes, because you don't get everyone on board. It just becomes a [senior executive name]-said-so, which is tough, it's hard to manage an organisation when it's like you're only doing it because [senior executive name] said so.'* (I4)
- *'But in general, I don't think that they're thinking always about the consumer, it's a lot of what does [senior executive name] want, you know.'* (I4)
- *'Apparently the look and feel [product aesthetics] was approved by [senior executive name], but even the lady in - the traffic lady I work with in design didn't even know it had been done and it was ready to send to him. So, it does feel at the moment like it's a little bit of a black hole.'* (I5)

Mentorship is a cornerstone of transformational leadership behaviour (Ergeneli et al., 2007). Consistent attention to, and development of, individuals through coaching and mentorship is an embodiment of individualised consideration (Popper et al., 2000). Bass and Steidlmeier (1999) described leaders that abuse their position of power as 'charlatans' and in conflict with what is defined as transformational leadership behaviour. According to internal team participants, two senior leaders

were blatantly described as bullies (R10 and R8), while a different senior leader had been described as having a coercive side (I4):

- *'But like a bully of note. Like you actually cannot even begin to imagine how miserable [senior executive name] made everybody. She is actually still around, making everybody very miserable, but fortunately very far removed from where I am now.'* (R10)
- *'now there is this emotional pressure where someone like a [senior executive name] comes in, specifically in their office, and they put very much emotional pressure on people, bullying. I've said to him on two occasions, and I think I'm not going to say it to him again, otherwise he's probably going to fire me, that I agree with 'what' he's doing but I cannot agree with his 'how'.'* (R8)
- *'So, the other thing that happens here, which has helped, is [senior executive name] came along. So, [senior executive name], if you've had any interaction with him, I'm sure you've already, here's very prescriptive on what he wants, when he wants it, how he wants it, and it's like no one really says no. So, that's good and bad. It's good because it does create this clear objective of what we need to achieve, but it's bad sometimes, because you don't get everyone on board. It just becomes a [senior executive name]-said-so, which is tough, it's hard to manage an organisation when it's like you're only doing it because [senior executive name] said so.'* (I4)

A leader that has a transformational style affects followers in a positive and constructive manner, and work performance is aligned with the strategic direction supplied. In the case of the internal team participants, the presence of a transformational leader was impactful. The positive effects of a leader that had elements of charisma and persuasion was thwarted to a degree when this same leader acted with micromanagement, manipulation and irrationality. These elements of duality may suggest the potential of a pseudo-transformational leader, where there are aspects of typical charisma (Mills & Boardley, 2017), while also exhibiting irrationality (Chen et al., 2019), manipulation (Bass & Steidlmeier, 1999) and a general quest for egotistic achievements (Basu & Green, 1997; Mills & Boardley, 2017). The effects of pseudo-transformational leadership on followers was adverse, as witnessed in the internal team sample group. According to the research on charisma by Lindholm (2002), when leaders operate on whimsy or irrationality, the after-effects are not always apparently negative; however, they create an impermanence in knowledge. Since most decisions are made from a place of leader 'gut-feel', the transference of knowledge and learning for team members is virtually non-existent (Lindholm, 2002).

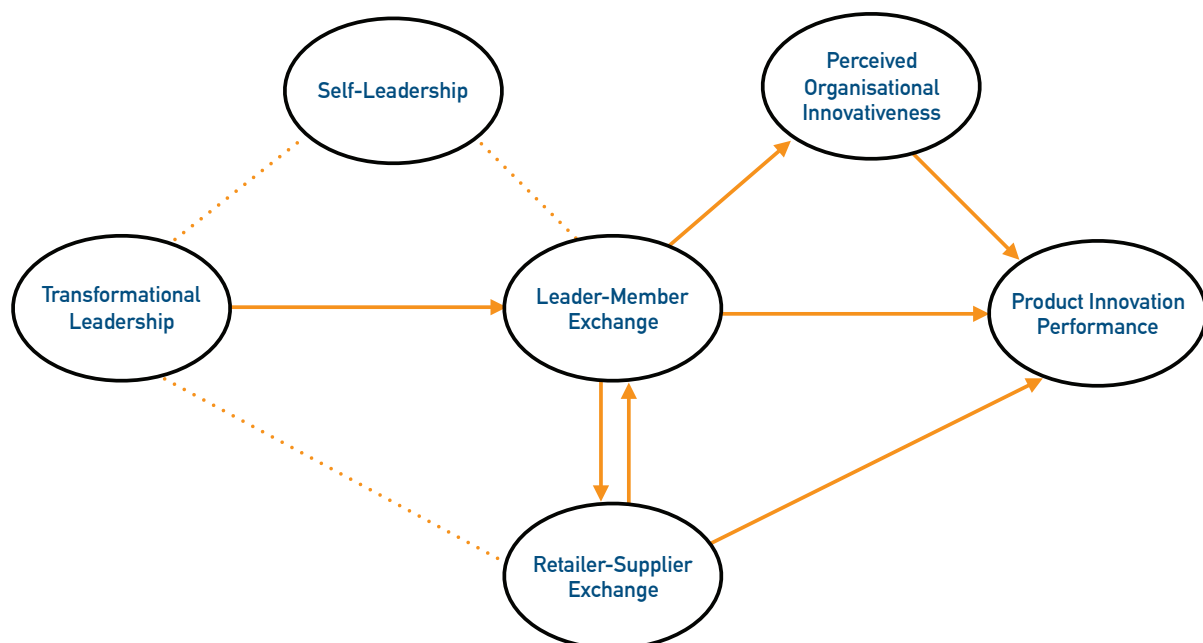
6.2.8 Internal team participant summary of findings

To summarise, the impact of transformational leaders on followers was echoed to a large degree by the internal team participants, despite the presence of leadership elements that could cast a highly placed executive leader to exhibit pseudo-transformational leadership behaviours. A lack of innovation strategy was mentioned directly and frequently, however, this might also have been an explanation for the inaccurate grasp of this particular grocery retailer's end-consumer. A misunderstanding of the end-consumer directly impacted a team's inability to achieve appropriate

products. The fragmentation that existed within the internal departments were also evident with high occurrence from the iterations by internal team participants. Suppliers emerged as strong strategic resources in the innovation quest. In drawing conclusions from the internal team participant data in this particular section, the absence of innovation leadership was evident in the lack of innovation strategy, cohering organisational culture for collaborative innovation and ensuring organisational structure to support the innovation quest. Figure 56 depicts the conceptual model, with specific contributions of the internal team participants.

Figure 56

The Conceptual Model, With Supporting Data Specifically Provided by the Qualitative Internal Team Participants



In Figure 56, the data gleaned from the internal team participants provided context to many of the relationships in the conceptual model. Specifically, the internal team participants provided data to support the link between transformational leadership behaviours and internal teams. The significance of suppliers was accentuated by the internal team participants; however, from their perspective, no significant contribution by transformational leaders to suppliers had been perceived. This group of participants did not provide a strong thematic link between transformational leadership and self-leadership, or links between self-leadership and leader-member exchange.

6.3 EXTERNAL TEAM MEMBER SUPPLIER DATA ANALYSES AND FINDINGS

6.3.1 Open and axial coding

Prior to starting the coding process, all transcriptions of interviews had been saved as primary documents in ATLAS.ti. In Chapter 4, the coding methodology was outlined to include several stages of refinement of the data into themes and subthemes. The first phase entailed the identification of relevant quotations from the primary documents. These quotations were then labelled as *first-level open codes*. In total, 624 verbatim quotations, drawn from the 19 primary documents, pertained to innovation performance in the context of leadership and relationships. Each of these quotations was given a basic label or what is referred to as an *open code*, which described the nature of the quotation's data in relation to the research focus. Once *open codes* were assigned to relevant verbatim quotes, a sorting process commenced in the same manner as described in Section 6.2.1.

Once these first-level open codes were sorted according to the aforementioned four steps, a simplified 111 *second-level open code* represented the initial 624 quotes in a simplified and more coherent way, and thus moved from descriptive to conceptual labels (Friese, 2019). The next step was to organise these *second-level open codes* to create code categories in line with the conceptual model. Based on the conceptual model, the relevant concepts that pertain to the supplier participants are outlined in Table 75.

Table 74

Conceptual Model Constructs Relevant to External Team Supplier Participants

External Team Supplier Participants		
Element from conceptual model	Abbreviation as code prefix	Colour code
Transformational leadership linked to retailer-supplier exchange	TL->RSX	●
Retailer-supplier exchange quality (retailer perspective)	LMX->RSX	●
Retailer-supplier exchange quality (supplier perspective)	RSX	●
Leader-member exchange linked to product innovation performance	LMX->PIP	●
Retailer-supplier exchange linked to product innovation performance	RSX->PIP	●

The relevant elements from the conceptual model, as outlined in Table 75, created anchors to the *second-level open codes*. Practically, each *second-level open code* was matched with the element from the conceptual model that it most appropriately represented. Colour codes were assigned to enable

easy identification and organised grouping. Table 76 itemises phases one to five and adds additional phases of refinement.

Table 75

An Example of Coding Sequence of Phases With an Example From the External Team Participants

Phase	Action	Example
Phase 1	Identify relevant quotation from source document	<i>“also in terms of packaging, that was also a big discussion, [supplier business owner name] handles that, but it was quite short, because they took the loss of the packaging.”</i>
Phase 2	Assign <i>first-level open code</i> to particular quotation	<i>“unequal risk-taking required; risk not equally shared”</i>
Phase 3	Refine/consolidate/eliminate to achieve <i>second-level open code</i>	<i>“risk-asymmetry”</i>
Phase 4	Assign <i>code category</i> informed by aspect of conceptual model	<i>“RSX”</i>
Phase 5	Retain <i>code category</i> prefix from conceptual model while further refining <i>second-level open code</i> descriptor	<i>“RSX” and “risk-asymmetry”</i>
Phase 6	Review all Phase 5 quotes and group to achieve a third layer <i>initial thematic grouping</i> to cohere all similar <i>second-level open codes</i> from Phase 3	<i>“POWER”</i>
Phase 7	Additional combining and refining	<i>“RSX_POWER_ asymmetrical risk”</i>
Phase 8	Fine-tuned thematic grouping	

The relevant elements from the conceptual model, as outlined in Table 76, created anchors to the *second-level open codes*. In practice, each *second-level open code* was matched with an aspect of the conceptual model it most appropriately represented. Colour codes were assigned to enable easy identification and organised grouping. Table 76 itemises phases one to five and includes three additional phases of refinement. The quote (*phase 1*) was labelled (*phase 2*), the label was challenged (*phase 3*), the improved label was matched to the conceptual model’s intrinsic components (*phase 4 and 5*). The next step was for the *phase 5* codes to be compared in order to ascertain initial thematic groups (*phase 6*). Once further refining of language had occurred and codes that contain duplication were merged, a greater sense of a theme was obtained.

The occurrence of relevant quotations, extracted from the supplier participant interviews that pertained to the conceptual model - or *phase 4* of the coding process, is outlined in Table 77.

Table 76

Phase Four Quotation Count, for Supplier Participant Data, Grouped Along the Elements of the Conceptual Model

Colour	Element in conceptual model	Groundedness	Description
●	RSX	448	Retailer-supplier exchange
	RSX: COLLAB	247	Aspects pertaining to collaboration
	RSX: COLLAB_SUPP	144	Collaborative aspects pertaining to suppliers
	RSX: COLLAB_RET	120	Collaborative aspects pertaining to retailer
	RSX: POWER	112	Power exchange
	RSX: SUPP	103	Intrinsic elements pertaining to suppliers
	RSX: QUAL	94	Quality in relationships
	RSX: TRUST	78	Trust between retailer and supplier
	RSX: COMM	43	Communication
●	RSX->PIP	161	Retailer-supplier exchange linked to product innovation performance
●	TL->RSX	59	Transformational leadership linked to retailer-supplier exchange
●	LMX->PIP	33	Leader-member exchange linked to product innovation performance

The first column in Table 77 exhibits the colour code which corresponds with the second column and in particular the code category which is governed by the conceptual model and the elements contained in the model. The groundedness is an indication of density, and the density refers to the frequency with which the same aspect is mentioned by the participants from this supplier group. For example, the supplier participant interviews provided 448 quotations on retailer-supplier exchange and, in particular, 247 that referred to collaboration in the context of a product innovation performance setting.

The supplier interviews provided a strong retailer-supplier exchange (RSX) perspective and the number of codes nestled under the RSX code category required several subcategories. These subcategories emerged as collective names from the sorted group codes and content, as opposed to assigning pre-established names:

- Collaboration, abbreviated as RSX: COLLAB, split into collaboration contribution from retailer (RSX: COLLAB_RET) and supplier (RSX: COLLAB_SUPP)
- Communication (RSX: COMM_)

- Quality of exchange (RSX: QUAL_)
- Power (RSX: POWER_)
- Trust (RSX: TRUST_)
- Supplier intrinsic aspects (RSX: SUPP_)

The aspect of ‘collaboration’ required another split, since it was deemed a possible contribution in the context of this study. The RSX questionnaire wording was retailer-centric, where there was a definite recommendation for future research and need to do a dyadic completion of the questionnaire from different vantage points. For example, the wording of one of the RSX questions read: ‘Do you know where you stand with the retailer and do you usually know how satisfied the retailer is with what you do?’, where the reverse as ‘Does your supplier know where they stand with you (the retailer) ...?’ was rather worded as ‘Do you know where you stand with your supplier...?’. This observation is motivated by the drivers of relational strength of the emerging data in the supplier interview documents. At the time of linking the individual codes to subcode categories and code categories, the naming convention was adapted with a prefix or prefixes to further enable sorting and refining (in line with Friese, 2019). To further enable concise coding, the following additional abbreviations were applied to the external team supplier participant quotations and codes:

- Innovation (INNO_)
- Retailer (RET_)
- Supplier (SUPP_)
- Leadership (LEAD_)

Phase five second-level open codes are presented in Appendix G.

The highest occurring *initial thematic groups* that emerged in *phase six* are listed in Table 78 in order of groundedness.

Table 77

Phase Six Initial Thematic Groupings, for External Team Supplier Participants, in Order of Groundedness, With Additional Descriptions

Initial thematic description	Groundedness	Elaboration on initial thematic groupings
Relational exchange	247	Quality and nature of retailer-supplier relational exchange
Exchange-supplier	144	Quality and nature of retailer-supplier relational exchange from the impetus of supplier
Exchange-retailer	120	Quality and nature of retailer-supplier relational exchange from the impetus of retailer
Power	112	Power exerted over supplier by retailer
Supplier-intrinsic	103	Nature and leadership taken by supplier
Trust	78	Trust relationship between retailer and supplier
Leadership	54	Aspects pertaining to leaders and leadership

In Table 78, the initial thematic groupings broadly convene the codes that share in the essence of the code in the first column. The initial thematic groupings, at this point in the analysis, were in raw form and still pending further refinement. For example, the initial thematic grouping of 'relational exchange' cohered any codes that primarily related to an aspect of exchange between a retailer and supplier. Other initial thematic groupings that emerged were aspects relating to the origin of relational exchange by suppliers (labelled exchange-supplier) and retailer (labelled exchange-retailer). The initial theme of supplier-intrinsic grouped together aspects relating to the nature of suppliers and specifically the initiative and leadership taken by suppliers in the grocery retail innovation ecosystem.

The next step in this coding process was to analyse the most relevant second-level open codes, the initial thematic groupings assigned to these, and fine-tune and cohere these into high-level findings.

6.3.2 Findings

After each second-level open code was assigned a prefix that linked this particular code to an aspect of the conceptual model, as well as assigning each second-level open code with an initial thematic grouping, the next step was to assess all the initial thematic groupings. The main initial thematic groupings were distilled by reviewing and grouping high-density codes, along colour codes and other similarities, in line with the conceptual model. The development of the four initial themes are presented in four respective tables below and are listed as:

- The effect of transformational leaders on suppliers
- Leadership taken by suppliers in the innovation process

- Relationship development between retailer and supplier
- Supplier and retailer interaction towards innovation performance

The first *initial thematic grouping* was transformational leadership at the retailer organisation and the effect of these leaders on suppliers. Table 79 lists the *second-level open codes* that relate to the effect of transformation leaders on suppliers.

Table 78

Second-Level Open Codes Pertaining to the Link Between Transformational Leadership and Retailer-Supplier Exchange Constructs

Second level codes	Groundedness	Initial thematic grouping	Colour code
The powerful effect of a transformational leader on the innovation process	41	TL->RSX: lead_positive impact of high level TL	●
The power of tl getting involved in strategic projects; playing a smoothing role	15	TL->RSX: collab_innovation fast-tracking by TL	●
Powerful impact of an individual that has transformational leadership attributes	14	TL->RSX: lead_legacy of TL	●

Table 79 is particularly salient, as there is a high occurrence of data from the supplier data set that mention the importance and positive effect of transformational leaders. The frequently occurring confirmation that retailer leadership had an impactful effect on suppliers and the supplier contribution towards innovation is a new contribution to existing literature. For example, ‘the powerful effect of the transformational leader on the innovation process’ was supported by 41 raw codes, making this code category the most frequently occurring element from the external team supplier participants. The valuable effect of the transformational leader on suppliers was further supported by the fast-tracking role and legacy, as two additional components of transformational leadership effect on suppliers.

Table 80 groups together the *second-level open codes* pertaining to the supplier’s leadership role in the journey to product innovation performance, with strong and regular features of quotations linking to a ‘push’-style of innovation.

Table 79*Second-Level Open Codes Pertaining to Suppliers Taking the Strong Lead in the Innovation Journey*

Second level codes	Groundedness	Initial thematic grouping	Colour code
End-consumer aligned innovation	31	RSX->PIP: inno_correct understanding of	●
Independent thinking, management in supplier team, fine-tuning own behaviour and thinking to continuously improve and perform	31	RSX: qual_supp_SL trait(s)	●
Strong supplier; assertive when required; not getting bullied	26	RSX: power_supp_assertive in achieving success	●
With strong processes in place	23	RSX->PIP: inno_lead	●
“Can do” supplier; make it happen	19	RSX: collab_supp_maverick	●
Despite unknowns; continuously micro-innovating on all fronts	17	RSX->PIP: inno_dedication in solving riddle	●
Dedicated to solve innovation riddle; mostly solving these without provocation/request from retailer’ maverick supplier	17	RSX->PIP: inno_solving micro technical riddles	●
Strong culture; efficient; collaborative team	10	RSX: collab_supp_strong organisational effectiveness & culture	●
Always looking to improve	10	RSX: qual_supp_continuous improvement	●
Supplier managing own risk by not over-capitalising in business	10	RSX: supp_risk_management via responsible supplier	●

Specific aspects from Table 80 include the first aspect that suppliers are strongly aligned to satisfy the end-consumers of the products they co-create and produce for the retailer. Equally salient, according to the frequency of code occurrence, was that suppliers independently prioritised innovation through managing their own teams, strategy and appropriate resourcing. Other emerging elements from this code category included assertiveness, optimism, dedication, culture and independent managing of own risk.

Table 81 contains *second-level open codes* pertaining to the development of the relationship between suppliers and retailers, aspects of collaboration, and interaction.

Table 80*Second-Level Open Codes Pertaining to Relationship Development*

Second level codes	Groundedness	Initial thematic grouping	Colour code
New retailer-supplier teams getting to know one another	23	RSX: trust_developed/improved over time	●
Quality assurance to mitigate retailer risk	22	RSX: trust_supp_honouring social contract	●
Regularly changing teams; accountability structure uncertain	18	RSX: collab_ret_team transient & incoherent	●
At the mercy of the current relationship strength; "feeling safe" based on relationships	18	RSX: qual_current relationship strength relevance	●
Quality exchange that develops over time	18	RSX: qual_developing personal relationships	●
Quality relationships leading to personal and valuable introductions	18	RSX: qual_value of personal introductions	●
Managing politics can be difficult; difficult personalities; finding ways to work with these personalities	17	RSX: collab_ret_team irrational decision-making & personalities	●
Not understanding supplier risk	17	RSX: power_buyer_no skin in the game	●
Biased selection criteria; chopping and changing suppliers	16	RSX: power_buyers non-relational; transactional	●
Retailer power	15	RSX: power_asymmetrical	●
Commitments not honoured	14	RSX: trust_retailer breaking social contract	●
Incoherent or non-existent	13	RSX: collab_innovation strategy sparse	●
Good communication channels; open book supplier costings	13	RSX: comm_functional red telephone	●
Supplier implicitly expected to carry most of the risk	12	RSX: power_asymmetrical risk	●
Equal power between supplier and retailer	12	RSX: power_balance in place	●
Supplier scar tissue	12	RSX: supp_risk_management via eggs in other baskets	●
Buyer using manipulation tactics	11	RSX: power_buyer coercion	●
At mercy of current relationship strength	11	RSX: qual_strength dependence	●
Supplier leveraging symmetrical trust to take big innovation	9	RSX->PIP: trust_inno_driving-force	●

Table 81 lists the *second-level open codes* that were clustered around relationship development. The highest-occurring *second-level open codes* were the supplier realisation that teams required time to develop trust and cement communication. A strong supplier commitment to quality was ardently mentioned as suppliers 'acknowledging their role' in the trust reciprocal and fulfilling this purpose with intention. 'Relational uncertainty' was mentioned in the context of: (1) changing teams; and (2)

uncertain accountability structures. Also included in this *initial thematic grouping* were aspects relating to ‘buyer mechanics’. Retailer commercial buyers were often not described in a positive light, and there were numerous reflections on historical buyers’ mistakes that had caused damage to the supplier business.

Table 82 specifically outlines the *second-level open codes* and *initial thematic grouping* that pertain to the interaction between the supplier and retailer in achieving product innovation performance.

Table 81

Second-Level Open Codes Pertaining to the Innovation Journey, Specifically the Interaction Between Supplier and Retailer

Second level codes	Groundedness	Initial thematic grouping	Colour code
Want to see a distinct innovation identity at retailer; comparison to competitors	21	LMX->PIP: collab_ret_unaligned to end-consumer	●
Support gleaned from middle managers	20	RSX: qual_functional middle level team availability	●
Caused by small mistakes; not given enough support; suppliers often not given an opportunity to push back or comment on important components	19	RSX->PIP: inno_premature discontinuation	●
Team incoherence	17	RSX: collab_ret_team lack of buy-in	●
Collaborative process to achieve innovation	16	RSX: collab_innovation interplay, communication, tweaking	●
Biased selection criteria; chopping and changing suppliers	16	RSX: power_buyers non-relational; transactional	●
Retailer power	15	RSX: power_asymmetrical	●
Transient product approval teams; extensions; bottlenecks at sign off	14	RSX->PIP: collab_fickle approval bottlenecks	●
Communication red tape	14	RSX->PIP: comm_red tape	●
Products perform when promoted/supported; marketing shortfall; merchandising impairment	14	RSX->PIP: inno_insufficient launch support	●
No structures for pushing innovation and sharing knowledge; developers often too rushed to think/act strategically	13	RSX: collab_ret_lacks innovation culture	●

Second level codes	Groundedness	Initial thematic grouping	Colour code
Innovation made possible through quality interactions	13	RSX: qual_collab_good relationships driving innovation success	●
Retailer priorities must be fast-tracked; retailer slow to commit; retailer not always with practical understanding; not a shared sense of urgency	13	RSX: qual_differing priorities / agendas / time horizons	●
Supplier absorbing costs post discontinuation	12	RSX: supp_risk_supp_skin in the game / vulnerability	●
Low inspiration/motivation in terms of innovation	11	RSX->PIP: collab_know_supplier yearning for more context	●
How to balance: future gearing (with sufficient blue-sky) VS commercial viability NOW	10	RSX->PIP: inno_efficiency vs future gearing	●
Retailer wants to see immediate success	10	RSX->PIP: inno_immediate commercial success imperative	●
Missing info; price targets missing	9	RSX: collab_briefs info-sparse	●
Subcontracted developer causing frustration for supplier; uncertain of their role; uncertain accountability	9	RSX: ret_Daymon as another silo; questionable role	●

In Table 82 depicts the salient aspects pertaining to the achievement of product innovation performance. The retailer-supplier interaction in achieving innovation success was rooted in quotations supporting the supplier view that the retailer had an inaccurate grasp of their specific organisation's end-consumer. In addition, the suppliers perspective was that innovation failure was due to unfair timelines or reasons. The absence of mechanisms or systems for suppliers to push innovation towards the retailer was confirmed by the external team supplier participants. The presence of communication red tape regarding product innovation processes and performance was mentioned by several participants.

In order to conduct *phase eight* of the qualitative analysis, each of the *initial thematic groupings* were analysed and distilled into a *fine-tuned theme*, along with *subthemes* that formed part of a main fine-tuned theme. Table 83 outlines the fine-tuned themes and subthemes gleaned from these interviews, with greater elaboration in the section to follow.

Table 82*Themes and Subthemes Identified From the Supplier Interviews*

Theme	Theme description	Subtheme description
Theme 1	Transformational leaders have a positive effect on suppliers	<ul style="list-style-type: none"> • Transformational leaders inspire suppliers • Transformational leaders fast-track and smooth the way in favour for suppliers • Transformational leaders leave a positive legacy
Theme 2	The retailer-supplier relationship develops over time and contains asymmetries	<ul style="list-style-type: none"> • Time and trust help cement the retailer-supplier relationship • The retailer-supplier relationship is affected by the balance of power • Suppliers are required to manage their own risk
Theme 3	Suppliers exhibit strong innovation leadership traits	<ul style="list-style-type: none"> • Suppliers with a can-do approach aid product innovation performance • Suppliers that are enthusiastic and strive for continual improvement enable product innovation performance
Theme 4	The innovation journey is often haphazard and unharnessed	<ul style="list-style-type: none"> • The quality of retailer-supplier interaction unlocks the innovation process • Scant knowledge sharing debilitates innovation progress • A lack in formal processes undermines the potential to innovate • A misunderstood end-consumer thwarts product innovation performance

One of the major findings of the quantitative findings in Chapter 5 is that there is a lack of relationship between leader-member exchange and retailer-supplier exchange; this second subset of qualitative themes provide some insights to this absence of relationship between these two constructs. Each of the themes and subthemes from Table 83 are discussed in detail in the following sections, and in line with Thompson and Walker (1998), some direct quotations are included as evidence of leadership and relationships, and how these pertain to product innovation performance.

6.3.3 Theme 1: Transformational leaders have a positive effect on suppliers

The literature that confirms the relationship between transformational leaders and suppliers are sparse (Hult et al., 2007), while some authors have been able to connect the two constructs (Hult et al., 2000; Ojha et al., 2018) and the relationship with product innovation performance (Bednall et al., 2018; Birasnav et al., 2011; Wu & Wu, 2015). Almost all the external team supplier participants mentioned the positive effect of individuals at the retailer who exhibit transformational leadership behaviour. There was a substantial effect of retailer-based transformational leaders who exhibited transformational leadership attributes on almost all of the external team supplier participants. Thirteen of the 19 external team supplier participants, comprising 68% of this sample set, iterated the

positive effect of a transformational leader on them and/or their organisation. (Some of the external team supplier participants had been employed by their organisation for too brief a time to possibly supply the same enthusiastic account as was the case with participants S2 and S19, who had been involved with the retailer organisation for six months and two months respectively. Participants S11 and S12 fulfilled junior positions with insufficient opportunities for interaction with the retailer's leadership. The interview with participant S15 was brief, as the interviewee seemed uninterested in providing any information.) Participant S18 had an adverse view on the leadership and business as a whole, with the exception of a positive collaborative relationship with the retailer product developer. The subthemes that emerged strongly were: (1) the inspirational influence that transformational leaders had on suppliers; (2) the manner in which transformational leaders smoothed the innovation process in favour of suppliers; and (3) the strong impact and legacy that these leaders left on their suppliers.

6.3.3.1 Transformational leaders inspire suppliers

The transformational leadership attributes of high-performance expectations, charisma, inspirational motivation, individual consideration, and vision (Podsakoff et al., 1990) emerged in various ways from the external team supplier participant interviews. The benefit of casting a compelling vision includes the excitement and inspiration it provides with any team members that interact with a transformational leader (Yang & Islam, 2012). The impact of a visionary leader emerged in participants' comments referring to the rapid effect of and gratitude due to leader involvement - which aligned with the principle by Kotter (1990) and Zaleznik (1990) who asserted that the transformational leader's vision requires inclusion of others and a communicated roadmap:

- *'So, in terms of vision, there was a gentleman called [former HOD], ... - he really drove the Convenience side of [retailer] and within three months you could actually see his impact, you know (S14, Cluster 5)*
- *'she [head of department name] is quite passionate about communicating and relationships with supplier.'* (S8, Cluster 4)
- *'...he was very instrumental in assisting and guiding and coaching and encouraging us with the pizza factory for which we will forever be indebted to him.'* (S10, Cluster 5)

The time investment in forming bespoke relationships - or individualised consideration - is a foundational aspect of being a transformational leader (Ergeneli et al., 2007; Ling et al., 2008). At the mention of the name of a leader who was considered a transformational leader, participant S6 answered with enthusiasm that this leader had a life-changing impact on this participant. The lasting effect of an impactful leader was also described (S6), and the reciprocal aspect that a transformational leader elicited from a supplier (S10):

- *'[former HOD] changed my life, in all honesty.'* (S6, Cluster 4)
- *'They saw suppliers not just as a product, but as a partnership with [retailer]. And that was a huge change and we still feel it today. Our business with [retailer] has, even monetary-wise, improved. It's gone leaps and bound.'* (S6, Cluster 4)
- *'[head of department name] is such a wonderful leader in an unbullying, unthreatening, developmental way. And the net result is people would move heaven and earth. We always have a joke and say we would move heaven and earth for her, because she is just so respectful, she is so direct.'* (S10, Cluster 5)

A transformational leader establishes high-performance expectations and thereby drives all teams they interact with to challenge the status quo (Ling et al., 2008; Popper et al., 2000). The aspect of championing (S17), coaching (S10), and inspiring greater performance (S7), and suppliers taking on this challenge, bolstered the effect of these leaders on their suppliers:

- *'...strongest person that brought us like overnight success, was [head of department name]. [head of department name] has the ability to innovate. I don't know how she is with other things, but her innovation, her push, her drive, is unbelievable.'* (S7, Cluster 4)
- *'...more about having [head of department name] as a champion, because [head of department name] is quite senior in her own right and I think that that has really helped us...'* (S17, Cluster 1)
- *'...he was very instrumental in assisting and guiding and coaching and encouraging us with the pizza factory for which we will forever be indebted to him.'* (S10, Cluster 5)

The inspirational effect of transformational leaders on the supplier participants was evident through the reciprocal commitment to rise to challenges set by these leaders. The championing leadership was perceived as positively altering the view from the supplier perspective.

6.3.3.2 Transformational leaders fast-track and smooth the way in favour for suppliers

High-level retailer leadership plays an impactful role in enabling the innovation process, especially when assisting in clearing bottlenecks or aligning team members that are often dispersed. The tension between explorative and exploitative innovation relates to the *innovator's dilemma*, which is described as 'remaining competitive today, while preparing for the future' (Chang & Hughes, 2012). Commercial buyers to a large degree focus on performance for the present and next business quarter, where product developers more often focus on gearing for the future through new directions or ventures. It is therefore valuable to have influentially placed high-level leadership that can charismatically ensure collective buy-in from all stakeholders. The positive effect of partnerships with fast-responding mechanisms built into the process enables grocery retailers to thrive (Frances & Garnsey, 1996). In cases where the leader is available to support and willingly assist in rapid resolve, projects are able to progress towards completion (Harris et al., 2009). In the case of the supplier participants, the transformational leaders enabled faster collaboration (S17), placed pressure appropriately (S17), and assisted in quick remedies (S9).

- *'I think [head of department name] has brought a sense of urgency and because she is quite senior in the business, she has been able to champion that sense of urgency and motivate the business to work more quickly to allow us to get this to market more quickly.'* **(S17, Cluster 1)**
- *'So, look, the caveat of all of this, is that I do think that having [head of department name] - and just to go into a little bit more detail - so first of all I think that [head of department name], having sold this then to [name of superior to a head of department] also has enabled her to be able to kind of light fires; it has certainly sped things along more quickly'* **(S17, Cluster 1)**
- *'So, proper upset. So, I quickly sorted out the problem... I messaged [head of department name], I took screenshots that same day, ... and she's like fantastic, go for it, do it, you know. Not a change in the product, just a quick solution to fix, ja.'* **(S9, Cluster 4)**

In contrast to the fast-tracking aspects discussed in the preceding section, the supplier participants mentioned substantial bottlenecks at the retailer-buyer level of decision-making. As described by participant S1, the commercial buying team included a head buyer, category buyer and product buyer, which often caused delays. Transformational leaders, more so than transactional leaders, can strengthen the relationships between internal teams and commercial buyers, as well as commercial buyers and suppliers (Hult et al., 2007). According to Li et al. (2014), the transformational leader sets the pace in terms of conduct towards the supplier: if the leader prioritises a supplier, then the team generally follows in emulating this behaviour. When commercial buyers and suppliers collaborate in an optimised manner, dependence is increased, costs are reduced, and revenues increase (Ojha et al., 2018). The importance of leadership - particularly transformational leadership - in the supply chain ensures lowest levels of conflict and highest levels of performance (Yun et al., 2020). The effect of a powerful leader was witnessed by the supplier participants in fast-tracking projects with an appropriate response by the commercial buying teams:

- *'There's still a big connect/disconnect between getting from [head of department name], she manages to get through to the head buyer, and then from there it starts to get watered down, the message between the head buyer and then there's a category buyer and then there's the actual buyer.'* **(S1, Cluster 1)**
- *'but because of the relationship on a high level, it helps with the buyers, so the buyers saw that okay, this is a priority, I have been pushed from the top.'* **(S16, Cluster 1)**
- *'[HOD's superior], ja, she's like I'll make it happen, tell everyone make this happen.'* **(S5, Cluster 1)**

Transformational leaders enable fast-tracking of decisions to the advantage of suppliers, where bottlenecks previously existed. In addition, a mediation effect was reported - especially to assist in getting commercial buyers who could be viewed as notoriously difficult to work with - to prioritise support to the supplier in either getting products listed or sufficiently ordered.

6.3.3.3 Transformational leaders leave a positive legacy

The effect of a transformational leader reverberates through a business (Cho & Dansereau, 2010). Transformational leaders can leave a legacy beyond the particular leader's time of involvement (Schriesheim et al., 2006). In the case of the external team supplier participants, a particular transformational leader was mentioned in the context of impact even a decade after his involvement and subsequent death:

- *'and with her migrating out of that team into this new function she has assumed, she has a little bit of a void.'* (S10, Cluster 5)
- *'First person was a microbiologist... she actually - we didn't know anything about HACCP [food safety and hygiene] standards and ... you know, what we wanted? To be in the food business. And she brought us to standard just about to get into HACCP [food safety and hygiene systems]. You know, people like that, how many do you meet?'* (S7, Cluster 4)
- *'Ja, there was a man called [former head of department name], you may have heard [former head of department name] referred to him in the past, and he was quite instrumental in assisting us and guiding us on certain things.'* (S10, Cluster 5)

Even years after a last interaction, the impact of a transformational leader was mentioned by an internal team participant as still being a pivotal part of the supplier journey. While the purview of this study does not include 'legacy leadership' as part of the construct, and the links between transformational leadership and legacy leadership are tenuous, Whittington et al. (2005) argued that true transformational leaders operate with positive motives towards their followers, which allows this construct to form an aspect of legacy leadership, provided these leaders are governed by what is uplifting in a moral sense and are deliberate about selflessly developing their followers, or, as in this case, their supplier followers.

6.3.4 Theme 2: The retailer-supplier relationship develops over time and contains asymmetries

The supplier participants contribute significantly through information regarding retailer-supplier exchange and relational quality, which is to be expected based on the main purpose and content of the supplier interviews. The coded elements pertaining to relationships between suppliers and retailers, as per the research questions, emerged predominantly as: (1) time and trust; (2) the balance of power; and (3) managing risk.

6.3.4.1 Time and trust help cement the retailer-supplier relationship

Trust can be defined as the confidence that each party in a relationship will perform as promised and the assurance that each party will take the other's welfare into genuine consideration as each makes decisions (Kelly & Bisel, 2014). Trust is promoted by strategic orientation, and incorporated into day-

to-day behaviour (Day et al., 2013). Specifically pertaining to trust, there seems to be a recognition that it is a cornerstone of relational quality, in line with the literature (Agarwal et al., 2012; Morrow et al., 2005). The supplier data set yielded a total of 78 separate mentions of some aspect of trust, whether it was simply mentioning the status quo, or referring to trust in a positive or negative light. Fifteen of the 19 participants shared an aspect relating to the trust relationship with the retailer, constituting 78% of the supplier data set. Trust was considered paramount, with the recognition that it required time to develop. A dyadic relationship is initiated and generally positioned at lower strength level, which then develops based on a series of interactions (Autry & Golicic, 2010). This development increases commitment over time and establishes comfort to entrust the supplier with more (Stanko et al., 2007; S3):

- *'So, it's obviously, you know, it's a new customer, so trust is built over time and there's this general rule that takes - some people say it takes seven days, which is quite soon, others say it takes seven years, but there's a general rule, it takes time.'* **(S3, Cluster 3)**

The external team supplier participants affirmed the notion that it took time to develop a trust relationship. There were participant quotations pertaining to trust in the context of detours (S18), abruptness as the relationship moved through stages (S10), and a mention of slow but certain improvement (S8). Trust and collaboration cannot mature in an impatient and instantly gratifying scenario (Fawcett et al., 2012). The direct quotations elaborated on the so-called proof of the pudding principle - once a supplier track record was established, the nature of the relationship changed to one with more stability:

- *'Okay, the business and therefore the relationship with [retailer] has taken a few detours.'* **(S18, Cluster 7)**
- *'nine years later...Well, you know, things go through fits and starts and stages, etc.'* **(S10, Cluster 5)**
- *'slowly, slowly you know, we improved each year. I think we really started pushing quite a bit about say eight years ago.'* **(S8, Cluster 4)**

An initial phase of assessment enables trust, which eventually matures to a level of attachment or commitment (Hinojosa et al., 2014; Krishnan, 2005). In line with the literature, internal team participants from this qualitative subset affirmed that the trust element emerged in a general, high-level sense with reference to a partnership (S16) and commitment (S10):

- *'Well, [retailer] as a whole, the relationship, I think, has grown and has bettered.'* **(S9, Cluster 4)**
- *'There is. And it's - for the first four, five years it was done on a handshake. They [retailer] asked us. When we established our capacities or abilities and credentials, they made it abundantly clear to us that they were comfortable with the relationship and please not to go and manufacture for one of the other big retailers. So, it was never written down you may not. Please do not, we'll look*

after you. And they have. They've treated us like absolute gentlemen and ladies in business. Absolute.' (S10, Cluster 5)

- *'there is that link between [head of department name] and [supplier CEO], that relationship. So, we have come in a good foot and they have treated us as a partner instead of treated us as a supplier that they want to pillage.'* (S16, Cluster 1)

The trust extended beyond a general level of trust and was mentioned in the light of more detailed decisions involving innovation aspects (S13):

- *'And I'll see that and say no, it's not going to work because the sauce is too runny and she will say, I agree with you, change it. So, the level of trust also there is quite important.'* (S13, Cluster 5)

The specificity of relationships between retailer and supplier enables higher levels of trust (Vanpoucke et al., 2011). The establishing of trust depends on the people involved, and who will be trusted, as opposed to generic trust between two organisations (Clauss & Bouncken, 2019). The trust is therefore largely dependent on the actual individuals that form part of the retailer-supplier dyad. In the study, a strong trust component was linked to the people that co-created the relationship on both the retailer and supplier sides, namely the individuals that essentially facilitated the trust (S7), and the experience was collaborative (S11), and reliant on communication (S11; S6):

- *'You know when you deal with people, you gain the trust.'* (S7, Cluster 4)
- *'I think they are going forward with us, because it's been some time working together.'* (S11, Cluster 5)
- *'But I think the way that they communicate with us and they share ideas with us, like I felt that they've become less imposing, more open, so like they're almost easier to not deal with now...'* (S11, Cluster 5)
- *'No, but there is now communication. But it's not just a "we want this, what's the price and that's it, like you have no say, you don't have an input kind of thing"'* (S6, Cluster 4)

With regard to the individuals co-creating the relationships, there was mention in a negative light of the challenges of working with different personalities (S19), and transient teams (S2):

- *'I understand the dynamic of working with the different personalities at retailer level.'* (S19, Cluster 6)
- *'the [retailer] team has changed quite a bit over the years.'* (S2, Cluster 2)

- *'Having dealt with [retailer] for a number of years the total lack of commitment and stability of actually building a working relationship is impossible with in a fourth year now on our seventh buyer in one category. They do not return calls and take up to a month to respond to any e-mail correspondence. Develop lines for [retailer] on their brands and they still cannot get it listed or sold into all stores with [intermediary].'* **(S2, Cluster 2)**

According to existing literature, it appears valid that commercial buyers are on the commercial side of doing business and often need to utilise transactional leadership styles by holding suppliers accountable on fundamentals, such as product quality, reduced time-to-market and reduced development costs (Sjoerdsma & Van Weele, 2015). The need for commercial buyers to perform according to immediate commercial objectives creates a mindset of immediacy and urgency (Cantarello et al., 2013). Fawcett et al. (2012) warned against impatience and instant gratification in the quest to build trust and collaborative relationships. The literature is prolific in respect of the adverse effects of 'difficult buyers' in a grocery retail setting (Hingley et al., 2015). The supplier participants aligned with the literature with regard to the challenges in collaborating with commercial buyers. In the case of the supplier participant responses, commercial buyers were not recognised as partners:

- *'Depending on who the buyer is, that's where the trust come.'* **(S8, Cluster 4)**
- *'So, our buyer changed. We didn't know it was very buyer-driven until the buyer changed, and we noticed the difference where we were given an opportunity to promote our product by giving deals or anything else that we were allowed to give, compared to before where it was just discontinued.'* **(S6, Cluster 4)**
- *'There's still a big connect/disconnect between getting from [head of department name], she manages to get through to the head buyer, and then from there it starts to get watered down, the message between the head buyer and then there's a category buyer and then there's the actual buyer. By the time it gets down there, he's just disinterested.'* **(S1, Cluster 1)**
- *'There is occasionally some disconnect and confusion between the developer and the buyer but we have noticed that this has got much better of late.'* **(S18, Cluster 7)**

Private label brands and products are owned by the retailer (Masojada, 2021). The area where retailers need specifically to be able to trust their suppliers is where suppliers are responsible for the manufacturing of the retailer private label branded products (Ndlovu, 2019). Any quality issues regarding retailer-owned branded products have the propensity to damage the retailer brand and not the manufacturer reputation in the public arena (Konuk, 2019). The external team supplier participants mentioned the social contract between retailer and supplier as a significant relational aspect to be honoured. Suppliers did not focus first on the elements of trustworthiness of the retailer, but rather justified why they as suppliers were trustworthy and the sense of stewardship or responsibility they felt when it concerned the retailer's brand. Supplier participants defended their

own trustworthiness through ardent evidence of the degrees to which they were ensuring quality standards were met:

- *'I think the risk is more from their side. It's not a massive corporation, and that's why we put the necessary effort into delivering all expectations and meeting compliance requirements.'* (S10, Cluster 5)
- *'Yes, we try our best to make sure that there must be no risk for them. Like foreign objects, what else?'* (S12, Cluster 5)
- *'Well, we put everything in place, we keep developing our facility to meet with hygiene standards, safety standards. So, as [retailer] is helping us to grow the business, we've also put into place new things, especially when it comes to food safety.'* (S9, Cluster 4)

Despite the supplier investment in capital, resources, quality assurance, and processes, and generally acting responsibly, the retailer was cited as having broken contracts and commitments. One long-standing supplier (S6, S9) cited an event where a specific commercial buyer issued an unexpected decision to terminate all supply from this particular supplier, without any notice. Prior to the decision to abruptly terminate, this particular supplier was also instructed to supply the retailer exclusively and therefore built no contingency. While this retailer-supplier relationship made a subsequent recovery when a new commercial buyer was appointed, the supplier participants referred to "scar tissue" still present four years later:

- *'And at that stage we actually lost all the business with [retailer], so they had dropped us for a period of two years.'* (S9, Cluster 4)
- *'So, it's a very hard lesson to learn. I know that [retailer] also makes an exception for us because of that scar tissue, that the other suppliers aren't given that, and we are looked on as why are they being the exception, and there's been comments through the other suppliers to us directly about the fact that we have others that we do supply, but the trust relationship has grown, yes, drastically.'* (S6, Cluster 4)

The external team supplier participants iterated the absence of written agreements between retailer and suppliers. There seemed to be implicit communication regarding retailer expectations, with little official reference on which suppliers could rely. Retailer team members focused on issuing annual trading terms by essentially itemising the various contributions required by the supplier in order to be associated with the retailer. One participant (S6) confirmed that even though trading terms were in place, they did not provide a sense of safety:

- *'And does that make you comfortable enough, does that give you enough security or kind of a sense of safety? No'* (S6, Cluster 4)
- *'very rarely you actually have a contract.'* (S18, Cluster 7)
- *'There is. And it's - for the first four, five years it was done on a handshake'.* (S10, Cluster 5)

The retailer food technologists and product developers in the business will generally play a more relational role, which involves regular check-ins for progress on sampling and delivery on critical pathway, thereby playing a “good cop” role. The commercial buyers or commercial managers generally get involved regarding trading terms and pricing, where a far more transactional method is often required. In concluding on the aspect of trust, it would seem that there is a dominant voice of loyalty and responsibility from the suppliers’ side, often met with specific personalities either smoothing the relationship, or souring it on the retailer’s side.

6.3.4.2 The retailer-supplier relationship is affected by the balance of power

The power imbalance that exists between retailers and suppliers, as echoed in the literature (Sutton-Brady et al., 2015; Hingley et al., 2015; Low & Li, 2019), specifically pertaining to commercial buyers (Meyer et al., 2019), also showed up as a key theme in this supplier data set:

- *‘And you know, we are there trying to, you know, in all fairness stick to the agreement, but the agreement is only important for [the retailer]’s side.’ (S18, Cluster 7)*
- *‘Don’t abuse your supplier’s resources. It is not ethical to lead a supplier on, using their knowledge, expertise and resources, only to pull the rug right at the end. Be open and honest at all times.’ (S17, Cluster 1).*

Commercial buyers are generally blamed for acting in a purely transactional manner, more often than not seeking only to satisfy their own short-term performance objectives (Kim et al., 2017). Based on internal team participants, in agreements, when the retailer made mistakes, it was cited as irrelevant; whereas there were serious repercussions when the supplier erred (S18). Commercial buyers changed to other suppliers without communication (S6), and commercial buyers threatened to take away business as a negotiation tactic (S4):

- *‘So, now we’re running at a loss while the agreement was in place in writing and you simply, you don’t get an appointment, no one answers the phone, e-mails are not answered. So, it doesn’t create an environment where you feel okay, you know, we are in partnership. It’s very much, you know, [retailer] holds the whip and you - you know, you try not to get hit, and you produce and I am not saying that’s with the whole team, but whenever mistakes are made on [retailer]’s side, you know, it gets swept under the carpet and you know, it’s tough luck, suck it up and good luck with it.’ (S18, Cluster 7)*
- *‘It [product range] was supposed to be relaunched in 12 to 15 months, because I asked for a time frame, was never done, they said no, we’re not going to pay this invoice, because we want to relaunch it in the new season. And then it was brought back as a product that we had and they were interested in again, I said well, we can launch it tomorrow, we’ve got the labels, the specs, everything ready for you. And happy with the product, great tasting, everything. Went with another supplier. Found out when we got product listings of ranges.’ (S6, Cluster 4)*
- *‘Ja, but that is my point, it is not a flippin [disrespectful] negotiation tactic, you know, that’s the whole thing, it’s actually not negotiable. Guys, you’ve signed off on this, you want Bb12, it’s 60 cents a unit, there, pay, you know, it is going to go up by 60 cents, what’s the big hoo-play*

[commotion] here, it's not 37 cents, it's not - it's 60 cents, you know. So, and then we end up in a situation where she threatens me, like she says now I am taking all your business away, I say well fine, take it away, because I can't carry on like that.' **(S4, Cluster 2)**

Literature on symmetrical power showed up as relevant with some of the participants, with the mention of proportional value-add, symbiosis, equal terms, win-win, and mutual care:

- *'Ja, very open [communication] and ja, always adding value both ways, like I think we are more of a team, ja. No, very good, ja.'* **(S11, Cluster 5)**
- *'Ja, I think both parties [retailer and supplier] look after each other.'* **(S19, Cluster 6)**
- *'Absolutely, I think it's a win-win relationship, so we're trying to help [the retailer] to drive innovation.'* **(S3, Cluster 3)**
- *'I think that makes the relationship between our business and [the retailer] completely different. It's not a power play at all, it's a symbiotic relationship.'* **(S10, Cluster 5)**

Many of the suppliers in the external team data set described their organisations from a position of strength and assertiveness. Commercial buyers have a reputation for being transactional (Sjoerdsma & Van Weele, 2015), and the commercial buyers that were described by the supplier participants corroborated this depiction. Despite the commercial buyers' transactional leadership presence, the interviewees came across as assertive and holding on to their power or authority:

- *'because my job is to make you [the retailer] succeed, I want, please get, I am not, I don't want to fight with [retailer], I want them to be successful and whatever I can do, I will help them be successful,'* **(S4, Cluster 2)**
- *'look, you're [the retailer] not going to bully us, this is how we're going to work and we're totally open with you, we understand the numbers as well as well as you understand, because I think you send a product person in there who doesn't necessarily understand which (indistinct) to be listed, [retailer] would do anything to get listed there, immediately that relationship is out of sync there and the buyer ...'* **(S1, Cluster 1)**
- *'But the thing is that, you know, people at that level, they don't like me, because I come from a strong background and I'm sorry, I can only take so much, being an engineer.'* **(S7, Cluster 4)**

The power asymmetry between retailers and their suppliers can contribute to relational instability (Low & Li, 2019). Buyer-supplier relationships are typically asymmetrical, marked with one-sided power, especially in the grocery retail sector (Hingley et al., 2015). The aspect of asymmetry was a valid subtheme among supplier participants, which stemmed from the position of power held by commercial managers and commercial buyers. One supplier (S18) had a particularly adverse perspective with reference to the supplier as a beggar and the retailer as a giant, and the commercial buyer was described as coercive, and multiple mentions of unfairness were made:

- *'The thing is, often you are seen almost as a beggar instead of a partner.'* **(S18, Cluster 7)**
- *'you know the David and Goliath situation, where in order to go get that, to make that leap and to grow your business and grow your personal situation as well, now you do everything to get that deal.'* **(S18, Cluster 7)**
- *'you can feel very disrespected when you are in business and you know, you try ... your ultimate best, you work very hard, you're very busy, and ... people don't really, especially dealing with buyers, buyers fairly often, I don't know, they know that they have got the kitty with the cash in it, so they feel they can pretty much get away with anything, because you know at the end of the day you are the one who has to jump to the tune.'* **(S18, Cluster 7)**
- *'it doesn't actually really matter, you know, you're the small guy and they are the big guy.'* **(S18, Cluster 7)**

A strong buyer-supplier relationship, operating beyond a traditional transactional relationship, is strongly linked to attaining a competitive advantage (Sjoerdsma & Van Weele, 2015). A willingness to move beyond a purely economic exchange requires a buyer and seller, to achieve a relationship that is more social and fulfilling (Dulebohn et al., 2012). The emerging theme reported by supplier participants described the converse where no sense of reciprocation was experienced. Innovation briefs were not approached in a relational manner; but, instead, were distributed in the fashion of a tender (S9), advanced innovation developments were abandoned with one supplier and given to another (S10), and innovation decisions were made in a transactional manner (S1):

- *'Obviously the brief goes to a couple of suppliers and from there they choose the best one.'* **(S9, Cluster 4)**
- *'There were also things like the sago pudding that they gave to [supplier competitor company]. I mean, we developed a sago pudding which was like milk tart from heaven and they gave it to [supplier competitor company] and it tasted like [expletive], excuse the language, and we were cross about that.'* **(S10, Cluster 5)**
- *'...but because all these retailers are so return-driven and numbers-driven that they look where can I get the highest sales from, the best margin from, as opposed to saying some of this is an investment in the future and to buy into the vision that actually it's better for you.'* **(S1, Cluster 1)**

The retailer-supplier power distribution can at times be symmetrical and relational, and at other times be experienced as transactional. From the external team supplier data set, there seemed to be a high degree of assertive suppliers. At the same time, the coercive behaviour stemming from retailer buyers seemed to be pervasive. The external team supplier participants pointed out that the general power balance continually tipped in the favour of the retailer.

6.3.4.3 Suppliers are required to manage their own risk

The aspect of risk is closely associated with a prediction of what the return might be of an investment (Powell et al., 1996). Prior to embarking on an innovation strategy with a particular supplier, an assessment of trustworthiness, control, complexity of tasks and financial gain are considered (Powell

et al., 1996). A prevailing power asymmetry between retailers and their suppliers was reported by supplier participants. In the light of asymmetrical power, it is considered vital for suppliers to manage their own risk. The discontinuation of products poses a grave risk to the continuance of the supplier business, where supplier expenses are not negligible. According to supplier participants, commercial buyers seemed to underestimate the risk exposure of their suppliers:

- *'my father phoned the buyer and said to the buyer if you take away that product line, that is our bread and butter, you might as well cancel me as a supplier tomorrow, that's literally what you are doing.'* (S6, Cluster 4)
- *'you must remember we're in a business where we're not a corporate, so whatever we spend comes out of our pocket. Whatever we lose comes out of our pocket. And when you deal with a corporate company, they don't care, because they've got somebody else's money they're using.'* (S7, Cluster 4)
- *'Still, some of the relationships we do struggle with, relationships with the buyers, they seem not to take into account how much costs are involved in our new factory, you know.'* (S9, Cluster 4)

Innovation leadership is essentially about manoeuvring the innovation journey, through risk management, uncertainty reduction through solid decision-making, championing and influencing the team, and achieving innovation objectives (Mumford & Licuanan, 2004; Van de Ven et al., 2008). Risk-management also involves both parties locking out specific or direct competitors (Vanpoucke et al., 2014). The vulnerability that arises from pledging exclusivity as a private label supplier to a retailer requires immense trust to be in place, as well as sufficient moats or barriers to ensure that the supplier is not easily replaced (Quelch & Harding, 1996). A juxtaposition between a retailer's lack of buy-in and supplier vulnerability was supported by the external team supplier participants. The notion of vulnerable suppliers, in the light of impulsive commercial buyers that are prone to breaking social contracts, narrates an asymmetrical relationship. There seems to be a predominant disregard by commercial buyers for the financial risks suppliers need to take in order to sustain the relationship with the retailer. A supplier reported an expensive ingredient that should not have been included in the product costing (S4), and suppliers were expected to absorb left-over packaging of discontinued items (S6, S9):

- *'I think that she is just pushing me down, that she's asking me to take the costs of the Bifidobacterium, of the Bb12, you know, that I must just put it in without being compensated appropriately, it's like guys, why do we end up in this place.'* (S4, Cluster 2)
- *'No, this is years. So, this is packaging worth 21 000, sitting upstairs for the past four years. Because what they do now, is they seasonally discontinue, and that is not a write-off of packaging. So, you have to wait for the rebirth of that, but they have since relaunched with another supplier, the same lines, and that packaging will now never be used.'* (S6, Cluster 4)

- *'Ja, it will be ... okay, I'll give you an example. Packaging, we're sitting with dead stock [unused printed packaging], a lot of dead stock of stuff that we can't give back because they don't want it back or ... we took on three months' worth, sometimes they'll pay, and then sometimes a buyer will come back to you and say well, why are you carrying so much packaging and labelling on hand, and then we say to them, well, you told us three months, and then we end up having to prove that three-month period of stock that we have, whereas they have the figures in front of them and they know.'* (S9, Cluster 4)

In order for supplier businesses to survive, they are required to adopt a shrewdness in terms of the risks they are willing to take (Fawcett et al., 2012; Konuk, 2019; Nandonde, 2019). At the same time, there is a visceral sense that the power balance is inherently unfair, as commercial buyers are held accountable for assuring performance in the immediate time horizon, and are not measured with regard to how they make provision by means of relationship-building to secure the future innovation pipeline. The quandary in the retailer-supplier relationship is that the supplier party is required to gear for the future by embracing new and potentially risky developments without an assurance of advantage or success, while the commercial buyer focuses on immediate performance and discontinues any product that does not fulfil short-term performance (Kim et al., 2017). As described by this data set, highly positioned leaders need to intervene to fast-track the innovations that provide future commercial advantages, while a balance could be achieved with commercial buyers being less transactional and more future-oriented in how relationships are built with strategic suppliers. Since the suppliers that were interviewed were strategic role players and were considered essential to the retailer, there should have been more progressive and consistent work in cementing strong ties, as opposed to constantly requiring high-level interference to ensure innovations to remain on track.

6.3.5 Theme 3: Suppliers exhibit strong innovation leadership traits

Innovation is accomplished by a network of people; rarely by individuals operating alone, and is based on relationships (Van de Ven et al., 2008). The advantages of casting a wider net in terms of innovation involvement include information, status and resource advantages (Powell & Grodal, 2005). The more complex or competitive the innovation playing field, the greater the reliance on specialised knowledge exchange, and therefore the need for strong, close relational ties (Hughes & Perrons, 2011). The advantages of well-managed, high-quality supplier relationships include: (1) development time efficiency; (2) cost reduction in development and actual product; and (3) product quality (Johnsen, 2009; Van der Valk & Wynstra, 2005). A strong emergence of individual and collective self-leadership attributes was a clear theme among these supplier participants. Without exception, all the participants referred to some degree of own initiated management and regulation to support the product innovation performance journey.

6.3.5.1 Suppliers with a can-do approach aid product innovation performance

Suppliers that take initiative by prompting the innovation strategy and process add momentum to both internal and external teams, which contributes to product innovation performance (Tsai, 2009). Evident from the supplier participant responses was that there was a strong sense of stewardship and ownership. The supplier participants iterated a self-sufficient approach by not waiting on the retailer to initiate changes, but rather self-reflecting and making the necessary changes or decisions towards product innovation performance. A pervasive 'can-do' and maverick approach was present throughout the supplier organisations in the people they employed (S10), the high standards they aspired to (S2), and the myriad innovations they pursued (S3):

- *'We encourage people within the - we've employed people for their independent thinking and for the individual management approach to the staff.'* (S10, Cluster 5)
- *'You know, if we're not at the top of the tasting list, then there's something we need to do about it.'* (S2, Cluster 2)
- *'So, I think in terms of what we can do, our discovery, we're a bit like a Swiss army knife, we're not really focused just in one segment, I like to describe us as an innovation company, so we specialise in the development of unique IP that is easy to scale but hard to copy with a brand built around it. So, where we don't have the specific manufacturing capabilities in our factory, we are partnered with another group which has various manufacturing facilities that we can leverage off and get a contract manufactured from. So, I think that's kind of a competitive advantage if I want to put it that way, is that we're not limited to one specific product range.'* (S3, Cluster 3)

Examples of supplier initiative and leadership taken in terms of product innovation included improvement processes for better hygiene in facility (S9), reformulation (S17), or making incremental improvements to a product (S13), as examples:

- *'Well, we put everything in place, we keep developing our facility to meet with hygiene standards, safety standards. So, as [the retailer] is helping us to grow the business, we've also put into place new things, especially when it comes to food safety.'* (S9, Cluster 4)
- *'Well, we didn't pull the smoothie, we reformulated it.'* (S17, Cluster 1)
- *'we're constantly developing some new form of improving, whether it may be the dough or the process of making it, streamlining the process.'* (S13, Cluster 5)

Suppliers, according to the assessment by external supplier participants, continually improved, thereby micro-innovating, as a manifestation of commitment and a general positive outlook towards problem-solving:

- *'We have our problems, hey. Let's not - in this game you're always going to have a problem here and there, sure, but the problem stays within the company until it gets solved, and it gets solved in the company, sure.'* (S14, Cluster 5)

The involvement of strategic suppliers in innovation is seen as increasingly relevant for grocery retail organisations owing to short product life cycles and competition intensity (Wagner & Bode, 2014). The strategic suppliers represented by this data set exhibited great commitment in all forms of innovation, be they process, incremental or product innovation. In the light of Theme 2 that outlines and concludes the unideal power relations and reported lack of commercial buyer support for suppliers, a futility in highly willing and innovative suppliers was a pervasive conclusion.

6.3.5.2 Suppliers that are enthusiastic and strive for continual improvement enable product innovation performance

Supplier involvement in innovation is seen as increasingly significant for grocery retail organisations because of short product life cycles and competition intensity (Wagner & Bode, 2014). The ability to continually improve is considered a key starting point for innovation performance (Wagner & Bode, 2014). Willingness, curiosity and enthusiasm are confirmed to be initiators that contribute to product innovation performance (Patrucco et al., 2019). The external team supplier participants described their approach to the innovation process to be original, imaginative, proactive, pioneering and persistent:

- *‘So, that’s how innovative we are, and taking a spice like paste and obviously the ingredients aren’t all there, to duplicate a flavour that good, it’s very difficult. So, we did do a lot of innovation on that sense, but sometimes having something that is unique to you or to better, taking a sachet and putting it in a product, there you go.’ (S9, Cluster 4)*
- *‘So, basically, our company got quite a name for innovation, trying to push the boundaries a bit on the specific sector that we operate in, which is mostly confectionery, bakery and sauce manufacture, which has got a bit of a bad name because of sugar and unhealthy and the whole food chain is moving towards health and wellness and making it affordable as well. So, that’s the boundaries that we’ve started to push.’ (S3, Cluster 3)*
- *‘But work on it, you know, you never know, you might break new ground and it might be the next best thing or whatever.’ (S19, Cluster 6)*

The strategic suppliers represented by this data set exhibited great commitment in all forms of innovation. Some of the suppliers were more proficient in streamlining processes to achieve innovation gains. In other cases, the innovation occurred by tweaking incremental aspects to improve a product. Suppliers also showed prowess in developing new formats for products with a positive commercial response by end-consumer purchase and repurchase. The custodianship, by suppliers, of aspects of innovation indicated vested interest, thereby adding to the relationship with the retailer.

6.3.6 Theme 4: The innovation journey is often haphazard and unharnessed

To achieve innovation success, the innovation journey requires a strategy (Crossan & Apaydin, 2010; Kraft & Bausch, 2016) and a matching process for all role players to follow (Hauschildt & Kirchmann,

2001). Part of the innovation strategy is to be deliberate about the relationship with strategic suppliers, providing systems for suppliers to push their innovation towards the retailer (Wagner & Bode, 2014). A lack of innovation culture and strategy adversely affects the road to innovation success (Phelan & Young, 2003). Product innovation performance is impaired by premature discontinuation owing to failure of auxiliary aspects like marketing, merchandising, small technical mistakes, insufficient communication, and insufficient launch support (Kim et al., 2017). In the responses by the external team supplier participants, there seemed to be a great regard for the collaborative process by some internal team members, while other internal team members did not share the same sentiment. The external team supplier participants revealed a strong drive or willingness to innovate, specifically in line with the retailer's end-consumers' expectations. Formal processes for innovation lacked clarity and provision of an accessible pathway for success. Knowledge sharing was not always dyadic, and the supplier participants were not unanimous in favourably assessing retailer end-consumer alignment.

6.3.6.1 The quality of retailer-supplier interaction unlocks the innovation process

Innovation is a dynamic interactive collaborative process between individuals or among groups (Kissi et al., 2012; Jacobs, 2013; Tuomi, 2002). According to Phelps and Tilman (2010, p. 102), dynamism is the context of innovation and is the "ability and proclivity to innovate". Tuomi (2002, p. 19) dubbed the "locus of innovation" as the collaboration between people with the result of a meaningful community contribution. The importance of suppliers in the product innovation process towards performance was understood by the external team supplier participants to be collaborative, reciprocal, clear, and transparent:

- *'It's [innovation] a two-way street, and a lot of it originates from those very, very pleasant interactions that we have with the team, more often than not at that kitchen over in [name of main test kitchen]. And that's where the pleasure of working with people, talking, having a joke, and that, ja, interaction. The human interaction. And that's where the best ideas come out of.'* **(S10, Cluster 5)**
- *'So, it is definitely a give and take relationship, and it is more than just a keyboard relationship, we definitely need to maintain face to face communication as often as possible.'* **(S2, Cluster 2)**
- *'...the last time was really nice where I went with everybody, we went altogether to [retailer] to present all sorts of products. It's when you have ideas and you speak of them right there and then, it's different to where you then write, go to your office, put them on a mail and send them off. It's slightly filtered and diluted, you know, there. Here is like raw, how you feel right now, what the taste is right now.'* **(S13, Cluster 5)**
- *'We could negotiate with a new product and they'd be like wow, that could actually work, let's try it, you know, let's do something, instead of saying no.'* **(S9, Cluster 4)**

Mutuality is developed through network development, “thus enabling complexity dynamics such as interaction and emergence that can produce innovative outcomes” (Osborn & Marion, 2009, p. 203). Innovation is described as “the function of an interaction among the motivation to innovate, the strength of the obstacles against innovation, and the availability of resources for overcoming such obstacles” (Mohr, 1969, p. 111). Innovation was described by the external team supplier participants as a series of interweaving events between retailer and supplier until the product was ready for production and launch. According to some accounts, the interweaving process of achieving innovation was productive (S18, S19), while there may also have been initial sparseness of what the product developer intended to achieve (S11):

- *‘And then she will tell you whether she agrees or she doesn’t agree and whether it is going to happen now or in a year’s time and whether there’s genuine interest or not. Ja, you know, it’s a very good approach in being honest about the situation and showing your guards.’ (S18, Cluster 7)*
- *‘So, I think if you have a strong relationship, you actually - your innovation, I think, will be exciting, I think you can bounce ideas off of each other, whether you are the retailer or whether you are the supplier, it’s easy because you know, you have that communication between the two groups or whatever, and at any point you can just phone and say listen this is what I’m thinking and the next person will go oh my God, that’s a good idea, let’s try that.’ (S19, Cluster 6)*
- *‘I can ask silly questions, they are there to help you guide, ja, but I just think initially it is a bit of a struggle to get that true vision, it only comes kind of further down the line.’ (S11, Cluster 5)*

Hueske et al. (2015, p. 46) describes innovation to involve many players with “difficult-to-reconcile stakes and a multiplicity of interactions”. While open innovation is an ideal way to achieve rapidity in radical new products, not all organisations are set up for this, owing to a preference to have tighter control over their relationships and source of breakthrough innovation (Cheng & Chen, 2013). In agreement with this sentiment, some supplier participants rated the level of collaboration as unproductive. Included in this was a view that the supplier voice and specific experience were not regarded (S1), time-to-market was unnecessarily long, flux existed regarding internal retailer teams, and a disconnect was evident between internal retailer teams:

- *‘[Retailer] does not listen enough to suppliers who are experts in their fields when it comes to innovation.’ (S1, Cluster 1)*
- *‘[Retailer] should be more willing to involve the supplier in development of both product and packaging. There seems to be too little time to do all properly first time. Knee-jerk reactions lead to further issues.’ (S5, Cluster 1)*
- *‘Up to this point and time we collaboratively missed too many opportunities. Products we presented are taken up only three to five years later. On the [department name], we are blatantly messed around and ignored, despite our 24-year commitment to growth with [retailer].’ (S6, Cluster 4)*

The product innovation performance process requires an innovation champion (Howell & Higgins, 1990), an agreed roadmap (Hueske et al., 2015), and regular retailer-supplier interaction (McLaughlin et al., 2002). One supplier respondent maintained that an ideal situation in terms of product innovation performance would be to include an innovation leader, strong and regular communication, keeping commitments, and working from the same brief:

- *'This is what it should be... the person who is driving the innovation actually just deals with it, you know, in the appropriate time. And then there's great communication between them and us. We literally have weekly conference calls with, you know, each one of the stake [holders], the driver, you know, the person responsible in the retail trade and ourselves. You know, we know it's non-negotiable, three o'clock Tuesday afternoon, blah-blah, we all go and sit around the conference room, we are all on the same page.'* **(S4, Cluster 2)**
- *So, here is the easy solution, right, this is not difficult to fix, really, it's not difficult it just requires leadership from [head of department name], and the sense I have is that [head of department name] is going to actually deliver this, guys, we have an upfront document which actually is signed off by everybody and the brief is there, the price is there, the price point is there, the costing is signed off, it's all done with the relevant stakeholders up front, and then as we go through the various gates, you know, there's some gates which really have to be signed off properly, like a label or the pricing or the costing, and all the stakeholders are just like putting their mark on it, and it is so easy in our new electronic world, it's on a portable, and we all just go there and we put our name on it, agreed. So, is that document not in place at the moment? No.'* **(S4, Cluster 2)**

Innovation performance can be hindered when the individuals involved are disjointed in their collaboration (Sipos et al., 2014). According to the external team supplier participants, there was a separation between the commercial team and development team at the retailer (S16). The retailer buyer was disconnected from the internal product developer, which compacted the disfunction by forming a major bottleneck in signing things off:

- *'there is a real disconnect between the [retailer] buyer and the developer. this frustrates progress on innovation and development.'* **(S16, Cluster 1)**
- *'Having dealt with [retailer] for a number of years the total lack of commitment and stability of actually building a working relationship is impossible with in a fourth year now on our seventh buyer in one category. They do not return calls and take up to a month to respond to any e-mail correspondence. Develop lines for [retailer] on their brands and they still cannot get it listed or sold into all stores with [intermediary].'* **(S2, Cluster 2)**

There seemed to be some accounts by about 21% or four external team supplier participants of dysfunctional, cumbersome and counterproductive interaction towards innovation. Four other participants referred to highly productive interactions between supplier and retailer. The two groups of contrasting impressions related back to different innovation clusters. For example, both participant S2 and S4 were linked to innovation cluster 2, yet one rated the collaboration with the retailer as productive, while the other described it as dysfunctional. The same differing perspective was echoed

by participant S9 and S6. The differing assessments may have related back to different dyadic relational qualities between specific individuals from the supplier's or retailer's side.

6.3.6.2 Scant knowledge sharing debilitates innovation progress

Knowledge exchange is the main reason for retailer-supplier relationships, since this exchange is strongly founded on commercial grounds (Midgley, 2009; Ren et al., 2015; Tsai, 2009). Without knowledge exchange, the relationship cannot flourish (Vanpoucke et al., 2014). Supplier knowledge management should be a deliberate strategy for the retailer, since the advantages are so abundant (Zhang et al., 2015). The types of elements to integrate should be: (1) product development knowledge exchange; (2) synchronised production planning based on sales; and (3) resource information sharing (Vanpoucke et al., 2014). There are formal coordination mechanisms, such as contracts, and informal coordination mechanisms, such as relational quality, that enable innovation knowledge exchange in supply chain relationships (Sjoerdsma & van Weele, 2015). The presiding external team supplier participant inputs threw light on a lack of knowledge provided by the retailer. In the case of the suppliers, they were largely exclusive, producing under the retailer's brand and investing in R&D risks, and it would therefore have been appropriate for them to partake in more information sharing and have access to the retailer's vision, in line with strength-of-ties theory (Hughes & Perrons, 2011). Over time, suppliers and their customers develop a "shared code" through which to trade know-how (Rass et al., 2013, p. 181; Von Hippel, 1988) and this community of knowledge sharing is fluid as opposed to static (Powell et al., 1996), which in turn creates an environment for innovation success (Gumusluoglu & Ilsev, 2009). The suppliers pointed out the general lack of shared information (S4, S8, S2):

- *'Definitely on the level of information sharing, this could still improve a lot and would be important to the supplier to get in order to respond to market changes more rapidly.'* (S4, Cluster 2)
- *'There is not enough sharing of information. We have to pull information rather than it being pushed. The business model of using a 'middle man' [intermediary organisation] just add costs and does not improve performance or delivery of innovation.'* (S8, Cluster 4)
- *'...not much, we are not getting a lot...'* (S2, Cluster 2)
- *'Vision I struggle with a bit, because it's not always so clear. Like it's quite general.'* (S11, Cluster 5)

The end-consumer data was described by external supplier participants as either being difficult to obtain (S6), often being received in an outdated fashion for which there was no longer any application (S9), or in the context of there being a need to have discussions about product performance in a constructive manner in order to improve current or gear future development (S18).

- *‘Ja, we would like - to be honest in all senses, if they could submit sales figures to us every month, we could change something before it gets to a point of no return.’ (S9, Cluster 4)*
- *‘No, it takes a very long time to download, it’s a lot of data. Even if you shorten it to a week, they say like a seven-day one shouldn’t take very long, but it takes half a day, that kind of duration to download.’ (S6, Cluster 4)*
- *‘What I think buyers should be doing, is meet with suppliers you know once a month or once every six weeks and really sit around the table and do tastings and you know, think about how can we improve the product, how can we improve sales in the stores and how can we improve this entire offering within this particular category.’ (S18, Cluster 7)*

According to Tsai (2009), unideal absorptive capacity occurs when neither the existing bank of knowledge is efficiently shared, nor is the new knowledge sufficiently assimilated. Based on the external team supplier participants, the absorptive capacity in this innovation scenario was not optimised for ultimate sharing. The absence of and bottleneck in terms of knowledge sharing, emerging from these supplier participants, was not enabling the product innovation process to advance towards performance.

6.3.6.3 A lack in formal processes undermines the potential to innovate

Van der Ven et al. (2008, p. 4) argue that the innovation journey is more complex and ambiguous - as a “living system” the innovation process is not easily distilled to foolproof chains of causation and a linear underscore. The systems that enable successful collaborative innovation are firstly set by the leader (Mumford & Licuana, 2004). Since the suppliers are private label manufacturers for the retailer, they need to understand the mind of the retailer in order to present appropriate innovation. Enthusiastic suppliers that are willing to take risks and innovate should be harnessed with appropriate knowledge, ranging from general vision, new innovation processes, and end-consumer-related information, such as ideal price points and end-consumer profile descriptors. Guidelines on how to approach new innovations to present to the retailer were missing and required (S6, S4):

- *‘There is no kind of general policy document or specification or a manual or there’s no official invitation to launch, you know, or to present at certain windows’ (S6, Cluster 4)*
- *‘I want to deliver their innovation agenda. It’s not that I don’t want to deliver it, but the way that we’re doing it doesn’t work, simply because we don’t, there’s no process, it’s very informal and loose and on e-mail and the stakeholders are not being engaged, all the stakeholders are not being engaged.’ (S4, Cluster 2)*

In line with innovation leadership theories, optimised systems to enable collaboration are considered paramount in achieving innovation success (Hauschildt & Kirchmann, 2001; Midgley, 2009; Super, 2020). The external team supplier participants referred to new product development briefs as a document outlining the parameters of a new or improved product. Specifically, briefing documents existed and were considered sparse with limitations in terms of depth, objectives and timelines:

- *'So, we don't really generally get a very in-depth brief.'* (S6, Cluster 4)
- *'I think some better ... more laterally opening up briefs and saying look here, here is the core, but you know, there are opportunities across that spectrum. And then very much more specific in terms of RSP [recommended retail price].'* (S10, Cluster 5)
- *Certain objectives, products, timelines, and prices are unrealistic and non-obtainable, and lengthy dragging of product development becomes very expensive for supplier.'* (S15, Cluster 1)
- *'There should be far deeper engagement on time lines and expectations from both sides. Often time lines suggested cannot be achieved as the planning has not considered certain variables and this creates unnecessary tensions.'* (S18, Cluster 7)
- *"But they also need to push us as well, which I agree, which is good, they're also ought to give us dates, you know, time limits, deadlines, you know. And we also need to really meet and give them one of the best products that we can do, we can achieve.'* (S7, Cluster 4)

Some suppliers argued that, in the absence of retailer-supplied knowledge, they tended to push innovation (S11) or feel frustrated for having great ideas but the inability to translate their inputs into a development track towards a successfully launched product (S8).

- *'...we bring the knowledge ...'* (S11, Cluster 5)
- *'...here's so many ideas I got, right, but we don't have certain knowledge. I don't know how to get somebody to help me to develop that so [retailer] can also benefit from that idea... Like we have a lot of these things, so I'm a bit stuck with those things and I haven't been able to further that thing and a lot of time when I have that idea, I see [retailer's competitor] comes out with it after another six months, and I've already got it there, but then I didn't have anybody to help me develop it.'* (S8, Cluster 4)

According to the external team supplier participants, the innovation systems originating from the retailer to enable innovation success remained sparse. Both the general mechanisms for pushing innovation and specific briefing documents proved to be on the non-existent or sparse side.

6.3.6.4 A misunderstood end-consumer thwarts product innovation performance

Innovation leadership involves a roadmap starting from product or service inception and culminating in the end-consumer making a purchasing decision (Midgley, 2009). Both suppliers and end-consumers are considered ideal innovation partners, with commercial feedback gleaned from consumers, and suppliers assisting in the manufacturing of the products or services (Ren et al., 2015). The supplier participants stressed the importance of the end-customer, but assessed the retailer's understanding of the end-consumer to be inaccurate or falling short:

- *'I think that they underestimate the end consumer.'* (S6, Cluster 4)
- *'...you need to develop for the right person, for the right market.'* (S19, Cluster 6)

- *'You see, the thing is, like I said, it's all to do with what type of frame does your customers, what are your customers, who are your customers, what is their culture, what is their religion, what are their tastes, what are their - if you think of seasonal things, if you look at the white people before, they looked at curry and said, first thing that hits them, it's hot, won't have it. Do you know that? So, you've got to change the frame of mind first.'* **(S7, Cluster4)**

To further support this strategic supplier impression of the retailer misunderstanding their end-consumer, there also seemed to be a view that internal team members were not receiving the appropriate support from other departments or in respect of aspects such as marketing (S6, S17) and merchandising (S17).

- *'But [the retailer] has a lot of red tape when it comes to end consumer marketing. And I'm not talking about print marketing, or ... it's promotions.'* **(S6, Cluster 4)**
- *'And if it had been coupled with a lot of other products and partnered with a lot of - so, I think that that failed, just from lack of communication to the final consumer.'* **(S6, Cluster 4)**
- *'Ja, and I feel like the marketing and merchandising have let us down, because I think [the retailer] had an opportunity to use the [new joint retailer-supplier brand] to attract a new customer to their store, and I don't think they have taken advantage of that'.* **(S17, Cluster 1)**

According to the supplier participants, the retailer seemed to be focused on imitating other grocery retailers who happen to have very different end-consumers. The supplier participants iterated that the retailer in question was not optimally geared for product innovation performance:

- *'Be careful not to become another [the retailer's competitor]. Your target market is not the same.'* **(S4, Cluster 2)**
- *'You know, a lot of people, folk both internally here and within [the retailer] use [the retailer's competitor] as a yardstick. Now, [the retailer's competitor] sure has got its place in the sun, there really is, but my wife will argue with you, it's good but it's very expensive. And not everything that they knock out, is tops.'* **(S10, Cluster 5)**
- *'To be honest, I don't think they're very innovative. I always believe that offering new things will draw more customers. Something, not copy and paste it, like mom will also tell you, dad will tell you, why use [the retailer's competitor] as a benchmark, why use this as a benchmark? Why not do your own thing, do something spectacular that will work, you know? And that's why the customer go oh well, if [the retailer's competitor] doesn't have this, we go to [the retailer].'* **(S9, Cluster 4)**

When a competitor comparison becomes almost obsessive, and transforms into a mandate for imitation, it may indicate that the retailer may be misunderstanding their own end-consumer base, and thus misses a crucial step in their own innovation journey. The impressions from the external team supplier participants were that the retailer misunderstood their own end-consumer.

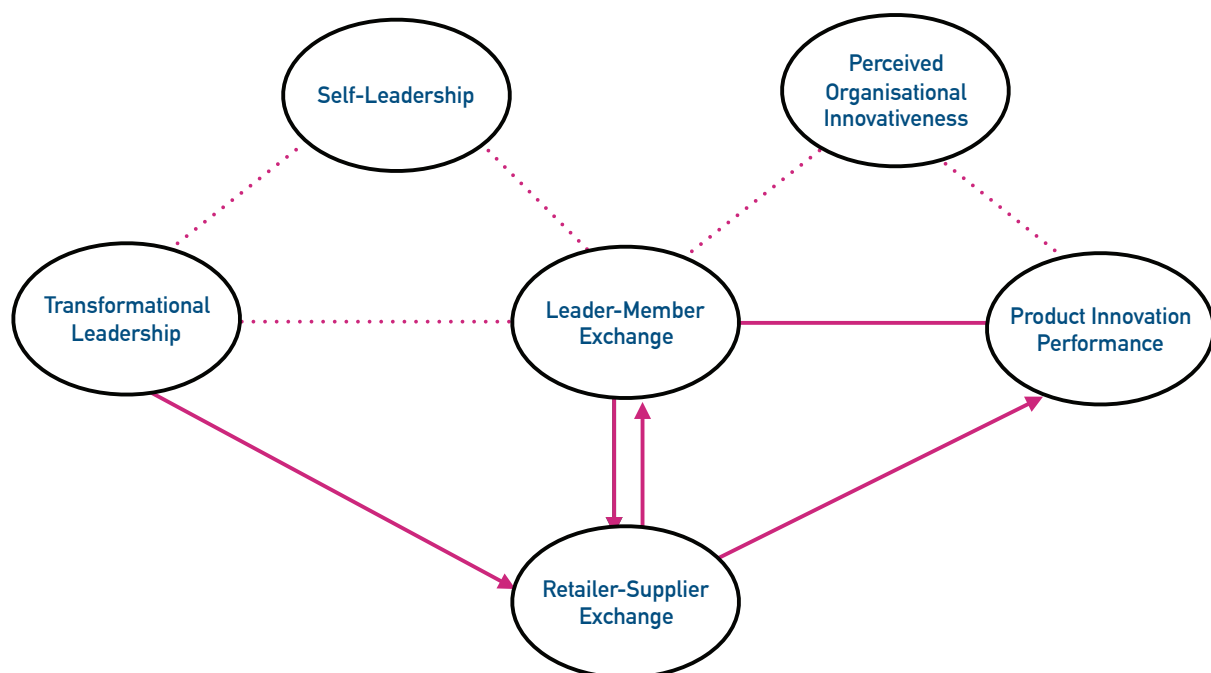
6.3.7 External team supplier participant summary

The external team supplier participants provided clear themes that bolstered the strong link already established between transformational leadership and retailer-supplier exchange. The strong link

between transformational leadership and retailer-supplier exchange also explained the completed link towards product innovation performance in the conceptual model. The negative link between leader-member exchange (LMX) and retailer-supplier (RSX) could be explained by many of the findings around gravely asymmetrical buyer-supplier relationships, structural fragmentation through teams operating in silos, and lack of knowledge exchange. Figure 57 depicts the conceptual model, with specific contributions of this particular external team data set.

Figure 57

The Conceptual Model, With Supporting Data Specifically Provided by the Qualitative External Team Participants



In Figure 57, the strongest themes of this external team data set enabled additional context to many of the conceptual links, specifically the substantial impact of transformational leadership on external supplier teams. The supplier data set also did not provide: (1) a link between transformational leadership and leader-member exchange; (2) a strong thematic link between transformational leadership and self-leadership; (3) links between self-leadership and leader-member exchange; (4) leader-member exchange and perceived organisational innovativeness; and (5) perceived organisational innovativeness and product innovation performance.

6.4 INNOVATION EXPERT DATA ANALYSES









6.4.1 Open and axial coding

Prior to starting the coding process, all transcriptions of interviews were saved as primary documents in ATLAS.ti. In Chapter 4, the coding methodology is outlined and entails several stages of refinement of the data into themes and subthemes. The first phase entailed the identification of relevant quotations from the primary documents. These quotations were then labelled as *first-level open codes*. In total, 517 verbatim quotations, extracted from the 20 primary documents, pertained to innovation performance in the context of leadership and relationships. Each of these quotations was given a basic label, or what is referred to as an *open code*, that described the nature of the quotation data in relation to the research focus. Once *open codes* were assigned to relevant verbatim quotes, a sorting process commenced in the same manner as described in Section 6.2.1.

Once these first-level open codes were sorted according to the aforementioned four steps, simplified 76 *second-level open codes* represented the initial 517 quotes in a simplified and more coherent way, and thus moved from descriptive to conceptual labels (Friese, 2019). The next step was to organise these *second-level open codes* to create code categories in line with the conceptual model. Based on the conceptual model, the relevant concepts that pertain to the innovation expert participants were outlined in Table 84.

Table 83

Conceptual Model Constructs Relevant to Innovation Expert Participants

Innovation expert participants		
Element from conceptual model	Abbreviation as code prefix	Colour code
Self-leadership	SL	
Leader exchange quality (leader perspective)	TL->LMX	
Internal member exchange quality (follower perspective)	LMX	
Retailer-supplier exchange quality (retailer perspective)	LMX->RSX	
Retailer-supplier exchange quality (supplier perspective)	RSX	
Leader-member exchange linked to product innovation performance	LMX->PIP	
Retailer-supplier exchange linked to product innovation performance	RSX->PIP	
Product innovation performance	PIP	

The relevant elements from the conceptual model, as outlined in Table 84, created anchors to the *second-level open codes*. Practically, each *second-level open code* was matched with the element from the conceptual model that it most appropriately represented. Colour codes were assigned to enable easy identification and organised grouping. Table 85 itemises phases one to five and adds additional phases of refinement.

Table 84

An Example of Coding Sequence of Phases With an Example From the Innovation Expert Participants

Phase	Action	Example
Phase 1	Identify relevant quotation from source document	<i>“Innovation is a cultural mind-set. The leaders need to create a place of psychological safety for employees, where they feel comfortable in taking risks. They need to know they will not be ridiculed for their mistake or have any shame because of failure. This kind of behaviour can be rewarded through recognising individuals who take risks even if the project does not satisfy the KPI’s set.” (Participant IE3)</i>
Phase 2	Assign <i>first-level open code</i> to particular quotation	<i>“inno culture invest in people & environment”</i>
Phase 3	Refine/consolidate/eliminate to achieve <i>second-level open code</i>	<i>“create a conducive org culture for innovation to flourish”</i>
Phase 4	Assign <i>code category</i> informed by aspect of conceptual model	<i>“TL->LMX->PIP”</i>
Phase 5	Retain <i>code category</i> prefix from conceptual model while further refining <i>second-level open code</i> descriptor	<i>“TL->LMX->PIP” and “create a conducive org culture for innovation to flourish”</i>
Phase 6	Review all Phase 5 quotes and group to achieve a third layer <i>initial thematic grouping</i> to cohere all similar <i>second-level open codes</i> from Phase 3	<i>“INNO_CULTURE” as an abbreviation for “innovation culture”</i>
Phase 7	Additional combining and refining	<i>“TL->LMX->PIP: inno_culture: create a conducive org culture for innovation to flourish”</i>
Phase 8	Fine-tuned thematic grouping	

The relevant elements from the conceptual model, as outlined in Table 85, created anchors to the *second-level open codes*. In practice, each *second-level open code* was matched with an aspect of the conceptual model that it most appropriately represented. Colour codes were assigned to enable easy identification and organised grouping. Table 85 itemises phases one to five and includes three additional phases of refinement. The quote (*phase 1*) was labelled (*phase 2*), the label was fine-tuned (*phase 3*), and the improved label was matched to the conceptual model’s intrinsic components (*phase*

4 and 5). The next step was for the *phase 5* codes to be compared in order to ascertain initial thematic groups (*phase 6*). Once further refining of language occurred and codes that contain duplication were merged, a greater sense of a theme was obtained.

Relevant quotations extracted from the innovation expert participant interviews that pertain to the conceptual model - or *phase 4* of the coding process - are outlined in Table 86.

Table 85

Phase Four Quotation Count, for Innovation Expert Participant Data, Along the Elements of the Conceptual Model

Colour	Element in conceptual model	Ground- edness	Description
●	RSX->LMX	288	Relational aspects between supplier and retailer teams, in the context of a product innovation performance setting
●	TL->LMX	163	Leadership elements, specifically transformational leadership aspects and implications for internal team members
●	LMX->PIP	102	Internal team members and product innovation performance effects
●	LMX	12	Internal team aspects
●	PIP	4	Product innovation performance aspects
●	SL	1	Self-leadership aspects

The first column in Table 86 exhibits the colour code, which corresponds with the second column and in particular the code category which is governed by the conceptual model and the elements contained in the model. The groundedness is an indication of density, and the density refers to the frequency with which the same aspect was mentioned by the participants from this innovation expert group. For example, the innovation expert participant interviews provided 288 quotations pertaining to the relational aspects between supplier and retailer teams, in the context of a product innovation performance setting.

Once each code was assigned a descriptor (*phase 3*), and a link to the element in the conceptual model to which it was best suited (*phase 4*), *phase six* could commence. In Table 86 the innovation expert interviews provided a strong perspective, owing to prolific quotations by the participants, on: (1) the effect of internal and external team relationships; (2) innovation leadership; and (3) internal team interaction, and how these three aspects either aided or hampered the product innovation process. *Phase five* second-level open codes are presented in Appendix H.

The highest occurring initial thematic groups that emerged in phase six are listed in Table 87, in order of groundedness.

Table 86

Phase Six Initial Thematic Groupings, for Innovation Expert Participants, in Order of Groundedness, With Additional Descriptions

Initial thematic description	Groundedness	Elaboration on initial thematic groupings
Leadership	186	Aspects pertaining to leaders and leadership; specifically focusing on the leadership provided regarding strategic innovation direction
End-consumer relevance	160	Success in innovation, measured by commercial response by end-users or end-consumers
Relationship-supplier	153	Quality and nature of internal-and-external-team relational exchange
Relationship-internal	112	Quality and nature of internal-team relational exchange
Risk management	88	Aspects relating to how risk is managed by both internal and external teams in the quest for innovation performance
Open innovation	50	Aspects relating to innovation in an open and collaborative manner
Innovation culture	30	Organisational culture in relation to the innovation journey

In Table 87, the initial thematic groupings broadly convene the codes that share in the essence of the code in the first column. The initial thematic groupings, at this point in the analysis, are in raw form and further refinement is still pending. For example, the initial thematic grouping of 'leadership' coheres any codes that primarily relate to an aspect of the leader and leadership style. To govern the coding process by assigning a very specific theme, namely 'end-consumer relevance', the process enabled ease in identifying individual quotations that align with this initial theme. It also ensured that other interesting but irrelevant quotes pertaining to innovation were not linked to this initial theme. Other initial thematic groupings that emerged were relationships with suppliers (labelled relationship-supplier) and internal team relationships (labelled relationship-internal). The initial theme of risk management grouped together aspects relating to risk and specifically the management of risk by both internal and external team members in the grocery retail innovation ecosystem. Open innovation is closely linked with the theme of relationship-supplier, but contains distinct aspects deemed different from the actual retailer-supplier relationship. Thematically, the concept of organisational culture, specifically one that tailors to an organisational setting where innovation is paramount for sustainability (Rafailidis et al., 2017), is relevant in this interplay of leaders, team members,

intermediaries and suppliers, and a crucial component of innovation leadership (Hueske et al., 2015). This initial theme was labelled ‘innovation culture’.

The next step in this coding process was to analyse the most relevant second-level open codes, and the initial thematic groupings assigned to these, and to fine-tune and cohere these into high-level findings.

6.4.2 Findings

After each second-level open code was assigned, a prefix that linked this particular code to an aspect of the conceptual model, as well as assigning each second-level open code with an initial thematic grouping, the next step was to assess all the initial thematic groupings. The main initial thematic groupings were distilled by reviewing and grouping high-density codes, along colour codes and other similarities, in line with the conceptual model. The development of the four initial themes are presented in four respective tables below and are listed as:

- leadership required for product innovation performance;
- organisational culture that promotes team collaboration;
- retailer-supplier relationships in open innovation context; and
- end-consumer relevance.

The first *initial thematic grouping* was innovation leadership at the retailer organisation and the effect of these leaders on product innovation performance. Table 88 lists the *second-level open codes* that relates to the effect of transformation leaders on innovation performance.

Table 87

Codes That Pertain to the Innovation Leadership Required for Product Innovation Performance

Second level codes	Groundedness	Initial thematic grouping	Colour code
Inno_lead: prioritise innovation through frameworks, incentive structures	28	TL->LMX: leadership_aligned strat, comms, processes, support, opportunity identification, collab	●
Team cohesion and collective drive to success; aligned internal teams achieve great innovation success	26	TL->LMX: leadership_regard bigger picture, team member expertise, not just micro department/team/category	●
Leader as glue to team and innovation process	22	TL->LMX: leadership_impactful leader as innovation champion, has great effect and gravitas	●
Cross-functional teams require leadership to smooth the	21	TL->LMX: leadership_aligning teams through a company-wide innovation vision, directive & strategy	●

Inno process or structures with accountability checks and balances	8	TL->LMX: leadership_projects should have defined scope, brief, stage-gates, accountability, plan specific to type	●
Effective org structure	4	LMX->PIP: end-consumer relevance_helix inno structure with strong leadership	●

As itemised in Table 88, some of the highest-occurring codes pertained to the salient role of leaders in the product innovation performance journey. The four highest-occurring aspects were closely linked in essence. The first item, 'TL->LMX: leadership_aligned strat, comms, processes, support, opportunity identification, collab', was the highest-occurring raw code descriptor with 28 references to this code category. The prefix 'TL->LMX' referred to the conceptual model, specifically the effect of transformational leaders on their followers. This code category essentially conveyed the notion that leaders ensured that there was an innovation strategy in place, clearly communicated and supported through processes, collaboration and innovation opportunity enablers. Processes included frameworks and incentive structures aligned with innovation outcomes. The second highest occurrence of a code category was 'TL->LMX: leadership_regard bigger picture, team member expertise, not just micro department/team/category'. This category described the need for the leader to ensure a bigger picture be maintained in order that each team member recognise their contribution, as opposed to holding on to their piece of departmental position, and thereby potentially inhibiting the overall project success. The third code category was 'TL->LMX: leadership_impactful leader as innovation champion, has great effect and gravitas' and described the leadership role as team-cohering, instilling pride and passion and empowering team members. These were cornerstone transformational leadership attributes. The fourth code category, 'TL->LMX: leadership_aligning teams through a company-wide innovation vision, directive & strategy', described the essential role of the leader to enable the constructive collaboration between team members, which closely linked with the second code category, but with a greater focus on creating a compelling vision, as opposed to fulfilling a 'go-between' role.

The second emerging theme centred around organisational culture to promote positive innovation outcomes, which stemmed from a deliberate leadership drive to ensure the organisational environment was ideal. For the second developing theme, Table 89 itemises codes that pertain to internal team dynamics and the pervasive organisational culture.

Table 88

Codes That Pertain to Internal Team Dynamics and the Organisational Culture That Enable Product Innovation Performance

Second level codes	Groundedness	Initial thematic grouping	Colour code
Inno success_team qualities: appreciate diversity, different lenses	23	TL->LMX: leadership_cross-functional teams / team diversity	●
Sources of knowledge to be managed for maximum value extraction	23	TL->LMX: leadership_churn all the knowledge to come to trustworthy conclusions	●
Innovation culture invest in people & environment	17	TL->LMX: inno_culture: create a conducive org culture for innovation to flourish	●
Noble failure for maximum learning; innovation coming from a failure or point of weakness or constraint; learn quickly, fail cheaply	13	TL->LMX: inno_culture: extract learning from failure; failure file	●
Agile & flexible team	10	LMX->PIP: teams_can-do curious passionate team members	●
High performing teams are better at delivering innovation	8	LMX->PIP: teams_clear accountability_delineate primary vs secondary roles; respecting/assisting in priorities; mkt vs tech vs commercial etc	●
Skill in binding the team together; how to keep attention and context for each dept's upside	8	LMX->PIP: teams_team glue, strategy and focus, appreciation	●
Reputation of traditional; buyers have to be managed; buyers described as useless	7	LMX: teams_so many aspects of retail has evolved; largely, buyers have not evolved	●

As itemised in Table 89, the highest-occurring code category pertaining to internal team dynamics was phrased as 'TL->LMX: leadership_cross-functional teams / team diversity'. This pertained to the diverse knowledge that could be gathered via a diverse set of experts. It enabled a variety of impressions to contribute. A noteworthy second aspect that related to a general approach towards diverse voices emerging from the data was described as 'TL->LMX: leadership_churn all the knowledge to come to trustworthy conclusions'. This code proposed the importance of creating a collaborative learning culture. One individual or team did not have all the answers; however, a stronger chance existed in all the smaller components building on the others to achieve a robust innovation outcome. The third aspect relating to internal teams and organisational culture was described as 'TL->LMX: inno_culture: create a conducive org culture for innovation to flourish'. This code category specifically

cohered the notion that a positive and supportive environment enabled innovation to flow. In addition, the learning that could be extracted from failure required an organisational culture that reduced the stigma of failure. A significant fourth code category to emerge from this theme was phrased as 'TL->LMX: inno_culture: extract learning from failure; failure file' and referred to the approach to failure.

The partnerships required to innovate included suppliers. For the third developing theme, Table 90 itemises codes that pertain to the internal team relationships with their suppliers in an open innovation approach.

Table 89

Codes That Pertain to Internal and External Relationships in an Open Innovation Fashion With Links to Product Innovation Performance

Second level codes	Groundedness	Initial thematic grouping	Colour code
Mutually beneficial relationships, with strong communication; both parties responsible to manage Merged comment from ideal	21	RSX->LMX: risk mgmt_communication, openness & accountability to managing risk	●
Short term vs long term return tension; retail world rigged in favour of immediate returns; incentives are structured for "this quarter", which disincentivises long term inno	20	RSX->LMX: relationships_focus on now vs gearing for the future; transactional cycle of grocery retail industry; NOW-machines	●
Ideal supplier: honesty and integrity key to build trust; trust a foundation of a good retailer-supplier relationship	15	RSX->LMX: open inno_involves risk; requires transparency, trust between supplier & retailer	●
Extra set of eyes on inno via supplier	14	RSX->LMX: open inno_retailer upside: suppliers as experts in their fields; open inno more eyes/expertise, efficiency	●
Relationships need time to develop; repore for collab needs time	14	RSX->LMX: relationships_building relationships is critical; need time to develop	●
Match knowledge sharing strategy to context of product, category and supplier status	14	RSX->LMX: relationships_idea knowledge exchange_detailed briefs, meetings, time investments	●
Solid innovation takes time and capital	12	RSX->LMX: end-consumer relevance_success requires investment (time, money, appropriate expertise)	●

Second level codes	Groundedness	Initial thematic grouping	Colour code
Partnerships with balanced expertise	12	RSX->LMX: relationships_develop & invest in supplier partnerships	●
Inno partners part of the conversation from inception	11	RSX->LMX: end-consumer relevance_all the voices as part of the conversation from the start	●
Assertive suppliers get better deals; supplier becomes more discerning about which pitches to tender for	11	RSX->LMX: end-consumer relevance_assertive supplier, strong leadership	●
Fast-tracking, guaranteed business; sales opportunity	11	RSX->LMX: open inno_supplier upside: exposure to end-consumer data; exposure to end-consumer via product placement	●
Exclusive suppliers have a lot of leverage; partnering with one supplier could exclude opportunities to partner with others later on opportunity cost of working with one retailer/supplier	11	RSX->LMX: relationships_an exclusive relationship often leads to a power imbalance which brings complexity	●
Pvt label more focused on imitation; relationships_trust-issues with private label work; national brands also doing pvt label: constantly in tricky positions	11	RSX->LMX: relationships_SA limited supplier base, exclusivity difficult, pvt-label only difficult	●
Understand when to re-invent the wheel and when to maintain the base	10	RSX->LMX: end-consumer relevance_end-consumer data valuable in understanding current and future needs	●
Takes long to develop a product properly	9	RSX->LMX: end-consumer relevance_as iterative process, that takes time; not always linear	●
Different personalities and interaction styles; some personalities gel while others don't; buyer personality effect on suppliers	9	RSX->LMX: relationships_ego and greed thwarting relationship development & open innovation	●
Different positions of power (retailer vs supplier)	9	RSX->LMX: relationships_retailer-supplier relationship difficult when one party has disproportionate autonomy & power	●
Supplier tends to absorb a lot of the negative aspects & risks	9	RSX->LMX: relationships_suppliers put major skin into the game; high risk for suppliers to work with retailers	●

Second level codes	Groundedness	Initial thematic grouping	Colour code
Encourage supplier risk management	9	RSX->LMX: risk mgmt_project specific; should be done on case-by-case basis	●
Ideal supplier mix depends on context; brand-led vs tech-led	8	RSX->LMX: relationships_manage/choose supplier basket_big suppliers have R&D prowess; small suppliers have risk appetite & maverick ideas	●
Collaborative accountable invested supplier relationship	8	RSX->LMX: relationships_supplier trait for inno: dedicated/sufficient/responsive resources	●
Open inno requires exclusivity parameters	8	RSX->LMX: risk mgmt_open inno requires level exclusivity parameters	●

As itemised in Table 90, several salient code categories supported the essential need of collaborating with suppliers in achieving product innovation performance. The prefix 'RSX->LMX' referred to the conceptual model, specifically the relationship between internal retailer team members and external supplier team members. The aspect of risk occurred in two closely linked code categories, namely 'RSX->LMX: risk mgmt_communication, openness & accountability to managing risk' and 'RSX->LMX: open inno_involves risk; requires transparency, trust between supplier & retailer'. These two categories mentioned the responsibility of managing risk with an onus on both supplier and retailer, as well as the necessary transparency and trust required in order to manage this risk. The retailer's upside in working with suppliers was conveyed by 'RSX->LMX: open inno_retailer upside: suppliers as experts in their fields; open inno more eyes/expertise, efficiency', which described the competitive advantage and speed-to-market efficiencies created via open innovation with strategic suppliers. The process of building relationships, however, required time and development, as cohered by two code categories, 'RSX->LMX: relationships_building relationships is critical; need time to develop' and 'RSX->LMX: relationships_idea knowledge exchange_detailed briefs, meetings, time investments'. A highly relevant emergence in this theme was the inherent transactionality that existed in the grocery retail milieu. The code category, 'RSX->LMX: relationships_focus on now vs gearing for the future; transactional cycle of grocery retail industry; NOW-machines', reflected the nature of 'now'. The cycle started with end-consumers that placed immense direct and often indirect pressure on grocery retailers to provide their needs with immediacy.

No matter how transactional end-consumers were with their immediate requirements for need satisfaction, product innovation performance was entirely linked to the end-consumer supporting

these innovations. In the final developing theme, Table 91 itemises codes that pertain to innovation success, expressed as end-consumer relevance.

Table 90

Codes That Pertain to Innovation Success, Expressed as End-Consumer Relevance

Second level codes	Groundedness	Initial thematic grouping	Colour code
End-consumer must always be uppermost in the development process; from start, throughout, till completion	25	LMX->PIP: end-consumer relevance_inno success & sustainability end-consumer centricity	●
Can get timing wrong; can have the greatest processes and still miss the inno mark; timing of inno launch NB; too early can fail end-consumer product interaction as the test of the pudding	14	LMX->PIP: end-consumer relevance_the mystery of end-consumer response; can speculate, but the end-user vote is everything	●
Solid innovation takes time and capital	12	RSX->LMX: end-consumer relevance_success requires investment (time, money, appropriate expertise)	●
Inno partners part of the conversation from inception	11	RSX->LMX: end-consumer relevance_all the voices as part of the conversation from the start	●
Assertive suppliers get better deals; supplier becomes more discerning about which pitches to tender for; supplier doing own due diligence	11	RSX->LMX: end-consumer relevance_assertive supplier, strong leadership	●
Fast-tracking; guaranteed business; sales opportunity	11	RSX->LMX: open inno_supplier upside: exposure to end-consumer data; exposure to end-consumer via product placement	●
Understand when to re-invent the wheel and when to maintain the base; buyers also not mining end-consumer data sufficiently	10	RSX->LMX: end-consumer relevance_end-consumer data valuable in understanding current and future needs	●
Takes long to develop a product properly; development occurs in increments, small tweaks at a time	9	RSX->LMX: end-consumer relevance_as iterative process, that takes time; not always linear	●
Maverick innovation often about doing series of small things properly	7	RSX->LMX: end-consumer relevance_seldom just about product, about all the other aspects that contribute to success	●
An inverse relationship between people's level of success and their attribution to luck; sometimes innovation can just come together as a spark of inspiration	7	RSX->LMX: end-consumer relevance_success based on randomness or as a result of other activities (accidental innovation)	●

Second level codes	Groundedness	Initial thematic grouping	Colour code
Processes required for true innovation, opposed to imitation game	7	LMX->PIP: end-consumer relevance_be weary of blatant imitation; challenge the status quo	●
Sometimes the innovation solution is something the customer didn't even know they needed; end-consumer not always able to express their needs	6	LMX->PIP: end-consumer relevance_customer knows only so much; need intuition and expertise to address future or unknown need	●
Also understand range of end-consumers	6	LMX->PIP: end-consumer relevance_different end-consumer priorities & need pockets	●
Mkt role to define the customer, to populate info about customer; assessing market saturation (size of the prize) vs opportunity cost trade-offs	6	LMX->PIP: end-consumer relevance_do proper market research; intimate understanding of end-consumer	●
Can check all the boxes but if marketing is executed poorly, then vulnerability remains; marketing investment in innovation journey is imperative	6	LMX->PIP: end-consumer relevance_end-consumer needs to be introduced to inno product/output; the role of marketing	●
Build a prototype; minimum viable product; adapt and amend the prototype	5	RSX->LMX: end-consumer relevance_iterative prototyping; look at new ideas/concepts from multi angles	●
Effective organisation structure	4	LMX->PIP: end-consumer relevance_helix inno structure with strong leadership	●

The prefix 'LMX->PIP' referred to the conceptual model, specifically the relationship between internal team members and the achievement of product innovation performance. The third highest-occurring code category from the innovation expert interviews is itemised in Table 91, as 'LMX->PIP: end-consumer relevance_inno success & sustainability end-consumer centricity'. A high consensus confirmed that the end-consumer was the final litmus test of product innovation performance and had to always be uppermost in the development process. In tandem, 'LMX->PIP: end-consumer relevance_the mystery of end-consumer response; can speculate, but the end-user vote is everything' confirmed that the consumer could often surprise innovators. Despite this, end-consumers remained central to the innovation mission and required the voices of all stakeholders to be evaluated ('RSX->LMX: end-consumer relevance_all the voices as part of the conversation from the start') and the necessary investments to be made to ensure success.

Table 92 outlines the main themes and subthemes gleaned from these interviews, with greater elaboration in the section to follow.

Table 91*Themes and Subthemes Identified from the Interviews With Innovation Experts*

Theme	Theme description	Subtheme description
Theme 1	Leaders are highly impactful in leading team members towards product innovation performance	<ul style="list-style-type: none"> • Team members are positively influenced when their leaders fully fulfil an innovation champion role • Leaders smooth the innovation-way when ensuring processes are aligned and organisational structure is optimised • Leaders smooth the way by ensuring people are aligned through vision and strategy
Theme 2	Internal team relationship-dynamics and organisational culture contribute to a healthy innovation ecosystem	<ul style="list-style-type: none"> • A diverse team enable multiple perspectives and knowledge inputs • The organisational environment and culture in which innovation is to occur plays a significant role in innovation outcomes • The organisational stance regarding failure affects organisational culture and innovation approach
Theme 3	Internal and external team relationships with an open innovation approach is not linear and predictable	<ul style="list-style-type: none"> • Suppliers are valuable innovation partners to retailers in the achievement of product innovation performance goals • Supplier relationships require time, development and investment to unlock advantages • Risk management should be conducted by supplier and retailer • A pervasive transactional cycle threatens ideally developing partnerships
Theme 4	Product innovation performance is anchored as end-consumer relevance	<ul style="list-style-type: none"> • The end-consumers of products are the ultimate litmus test in the product innovation performance journey • End-consumer relevance is dependent on essential components working in unison and requires necessary time investments

One of the major findings of the quantitative findings in Chapter 5 is that there is a lack of relationship between leader-member exchange and retailer-supplier exchange; this final subset of qualitative themes provide some insights to this absence of relationship between these two constructs. Each of the themes and subthemes in Table 92 are discussed in detail in the following sections; and, in line with Thompson and Walker (1998), some direct quotations are included as evidence of leadership and relationships, and how these pertain to product innovation performance.

6.4.3 Theme 1: Leaders are highly impactful in leading team members towards product innovation performance

According to the existing literature, innovation leadership involves many players with “difficult-to-reconcile stakes and a multiplicity of interactions”, which is simplified when the leader ensures that strategy, structure, resources, learning and culture aligns with innovation goals (Hueske et al., 2015, p. 46). Innovation leaders cultivated: (1) team solution-finding; (2) work systems; (3) incentives and

rewards; (4) role scoping; and (5) the organisational structure to support innovation (Mumford & Licuana, 2004). The theme of impactful leaders specifically included the leader as innovation champion, where these champions ensure systems are established and maintained, and team members are aligned in order to effectuate product innovation performance.

6.4.3.1 Team members are positively influenced when their leaders fully fulfil an innovation champion role

Leaders that assume the role of championing the innovation process contribute directly to innovation success (Sergeeva & Zanello, 2018). The notion that the leader fulfilled a role of conductor in the innovation process (IE16), where team members received specific support (IE4), were just some of the manifestations mentioned by the innovation expert participants. Participant IE10 brought to light the need for a leader that was centrally placed to lead the innovation process.

- *'I'm just leading a process for you guys to tap into your own genius and present systems together, and own that space and own the success of it.'* (IE16)
- *'And she just said to me go find people equally as passionate as you, and she goes, "and then just do it".'* (IE4)
- *'Within the team it is important that one person assumes leadership position to facilitate and coordinate the decisions required for the innovation to be a success.'* (IE10)

In 1968, Schön first mentioned the imperative of an innovation champion to ensure that innovation intentions translate into innovation performance (Howell & Higgins, 1990). Ashford and Detert (2015) supported the presence of an innovation champion in the context of team members that need to sell their ideas up the chain of command in order to get senior leadership to: (a) buy in to the innovation proposal; and (b) champion their innovation proposal down the line. The leader acts as a cohering agent, ensuring all team members are supported (Van de Ven et al., 2008), and as a go-between to ensure organisational goals are met via the team members that collaborate in fulfilling these goals. The aspect of an emissary is aligned with transformational leadership hallmarks of individualised consideration (Ergeneli et al., 2007), sketching an inspiring vision to their followers (Bass & Avolio, 1994), and context for the larger company for individuals (Chang & Hughes, 2012). The notion of individual support to followers also aligns with leader-member exchange literature, specifically that a follower responds positively when their leader takes special interest in assisting with job-specific riddles (Podsakoff et al., 1990). The action of contextualisation influences team members to "direct their efforts voluntarily in pursuit of it" (Paglis & Green, 2002, p. 216). According to the innovation expert participants, the innovation journey was spearheaded (IE16), prioritised (IE18), and contextualised (IE9) by the leader:

- *‘So, it usually starts with the leader. If the leader is very open-minded, listen to people, respect and trust that people are intelligent, even in terms where it challenges the leader himself or herself, then naturally all of those will be reflected in the team.’ (IE16)*
- *‘A mandate/directive from leadership, which encourages innovation, stating it is a business critical factor, and expect all employees to innovate. It has also worked where innovation development was encouraged.’ (IE18)*
- *‘Being a leader in innovative practice is shaped by engagement and buy-in to change and as Seth Godin said: change is always tricky. Asking people to change often requires a blend of highlighting the value to them and others that will be impacted by the change. I know they often say seek forgiveness rather than ask permission, but engaging others in innovative practices enables them to feel part of the solution and more likely to help you find the relationships and resources you need, and more likely to promote the solution.’ (IE9)*

The leader, by virtue of a leadership title, upholds a position of authority that is generally recognised by team members (Lunenburg, 2012). If a leader espouses impactful characteristics, like those with transformational leadership dimensions, team members are positively transformed (Siangchokyoo et al., 2020). Followers hold their leaders in esteem: (a) owing to their positions of authority; and (b) when their leaders exhibit transformational leadership characteristics such as charisma and instilling confidence (Arnold et al., 2001; Ling et al., 2008). The innovation expert participants described the impact of innovation leaders in the areas of exhibiting confidence, charisma and impact on followers:

- *‘So, I’ll say it’s definitely someone with a lot of confidence, somebody that would - so it’s speaking about [industry innovation leader name] who was really quite a leader with innovation side.’ (IE5)*
- *‘Often what is also needed is a charismatic leader or figure-head to motivate people. At innocent drinks, this was Richard Reed, who was a public speaker for the company and 1 of the 3 founders, and even though they had equal involvement, he was the face of the business. And he was the person who the employees could look to for inspiration.’ (IE3)*

Transformational leaders are known to pay individual attention to their followers (Ergeneli et al., 2007). Leader-follower exchange literature purports that a high exchange relationship is marked with follower support, recognition and development (O’Donnell et al., 2012). According to the existing literature, a correspondence between transformational leaderships and leader-member exchange is found (Graen & Uhl-bien, 1995), specifically the individualised dyadic relationship (Krishnan, 2005). A close, supportive, mentoring leader-follower relationship was conducive to innovation achievements, as reported by the innovation expert data set:

- *‘So, I think it’s very important to have that kind of personal close relationship and understand people’s emotional states for innovation.’ (IE16)*
- *‘I think as a leader your role is predominantly to coach.’ (IE4)*
- *‘you need someone with that skill that can challenge it in such a way as to get a positive result out of it.’ (IE8)*

In cases where a leader exhibits the opposite of transformational leadership traits, this creates discomfort and lack of settling in team members and followers (Siangchokyoo et al., 2020), as was also evident in the account of participant IE14 in reflection of a senior leader:

- *'I think there's a lot of transitional stuff happening and it's a very uncomfortable space, it's uncomfortable for everyone in the teams. He is a big bully, it's the only way I can explain it, he thinks at the moment he is very - he thinks the world of himself and he has a hell of an ego, and it was always very interesting at [retailer name] because they managed him into a space where he wasn't responsible for managing people, and they did it very carefully so that he still had quite a high powered portfolio but he wasn't actually looking after any people, because his people skills are really bad, and now he is looking after fresh, health and fresh, so it's fresh two they call it, and trade.'* (IE14)

According to the innovation expert data set, in a context where product innovation performance was considered essential, the role of a championing and supportive leader was required. Championing leaders were able to ensure team alignment to the overarching objectives of the innovation strategy. Leadership in an innovation context ensured that the intricate steps to enable the innovating is completed on time, and enabled support in the event of bottlenecks or other collaboration challenges.

6.4.3.2 Leaders smooth the innovation-way by ensuring processes are aligned and organisational structure is optimised

The organisational architecture, process flow, and performance metrics or incentives - specifically how they pertain to the different role players that need to affect the innovation performance - require leadership (Soldatos & Hardy, 2004). It is the leaders that ensure systems are in place and structure is optimised, in order to harness, not hinder, the innovation journey by processes and structure (Hambrick & Mason, 1984). Placing innovation at the core of activities was deemed imperative by participant IE16. The act of innovation prioritisation ensured that all other aspects were aligned accordingly:

- *'But I wanted to introduce a completely different way of working, and innovation was at the core of it. So, it was very important for me as I introduced all of these things, to link them to clear results and performance.'* (IE16)

The type of organisational architecture or structure (Ahmed, 1998; Soldatos & Hardy, 2004) can range from hybrid to matrix (Jelinek & Schoonhoven, 1990), to traditional hierarchical (Neck et al., 2006), and can provide scaffolding in the form of structure and be highly supportive in the innovation journey (Henderson et al., 2009). Practically, how each of the divergent departments collaborate and communicate is relevant. In practice, a product developer may be structurally set up to be accountable to a product developer senior leader and also a commercial leader (Hult et al., 2000; Watson et al., 2015). In order to achieve product innovation performance, the product developer is required to

function fluently across other departments - for example, technical and commercial (Hult et al., 2000; Watson et al., 2015). Participant IE15 elaborated by drawing a correlation between a relay race and the product innovation process, where handover occurs from one department to the next, with clear accountability cited as an imperative:

- *'Or you could have where it's like handled like a baton in a relay lapse, from one department to the other. I've seen that work well, where you've got really good teams and processes, but I've also seen that it works badly because then when you hand the bat over, for example, the ideation person, she would hand it over to a - like somebody who commercialises with the factory and they would hand it over to another person in the chain. There the negative is that you don't have clear accountability for a project, and so you can easily blame another person in the chain. But really, I've seen both work, and I think a good place often for innovation is marketing. So, that's like a partner that understands, so it's not like you're policing your own work.'* (IE15)

The processes that can assist in harnessing the innovation team, for example stage-gate (Cooper, 2011), enable a clear roadmap towards innovation success (Jiménez-Zarco et al., 2006). Participant IE1 stressed the urgency: (1) of matching the innovation process to the specificity of the organisation; (2) of clearly defining innovation goals; and (3) of leadership to smooth the way, manage timelines and innovation stages.

- *'Implementing (or having teams execute) whatever the right innovation process is appropriate for that organization - stage gates, check ins every other year, etc. - whatever the right cadence or check in makes sense, and any investment needed to get the total organization understanding how innovation is invested in and progressing.'* (IE1)
- *'Landing clear objectives is critical to avoid churn or swirl, defining the role of core products and offerings, vs. the role of innovation - bringing in new consumers, targeting new occasions, etcetera, defining success KPIs [key performance indicators] - business metrics, consumer demand, etc., defining strategic guardrails - what companies and leadership is truly willing to invest in to make innovation successful, new capabilities, people structure, risk, patience, payback periods, etcetera.'* (IE1)
- *'Smoothing the way for leadership teams - what you do from a management perspective, manage expectations for timing, think about pipeline or stage gate development, vs. a winning answer right away, protect teams from "normal" business operations, while still holding them to expectations, distinct resources that can't be poached by other teams.'* (IE1)

Leaders are required to ensure that the key performance indicators (KPIs) are appropriately matched to employee incentives (Mumford & Licuana, 2004). Participant IE16 linked ideal innovation outcomes to the manner in which teams cooperate. Participant IE18 and participant IE8 stressed the relevance of frameworks and incentives directly linked to innovation activities:

- *'By encouraging, teams to innovate, establishing frameworks and incentive structures to encourage innovation. Although feasible innovation is preferable, encouraging innovation altogether was useful.'* (IE18)

- *'Ja and very (indistinct) and it's - I've always put it down to, whoever pays the salary will get (indistinct) and it happens frighteningly quickly, you know, it's like a month and it's changed.'* (IE8)

The leaders' role in providing innovation scaffolding via processes, incentives and organisational architecture was seen as imperative. While processes, incentives and organisational structure alone cannot guarantee product innovation performance, a cumulative and rudimentary innovation structure is achieved when they are optimised to support the innovation journey. It can be argued that if structure, process and incentives are not aligned to the specificity of the innovation goal, the innovation journey will be hampered and will require greater efforts on other fronts to achieve success.

6.4.3.3 Leaders smooth the way by ensuring people are aligned through vision and strategy

The leader aligns the vision with the values through appropriate articulation, ensuring the team attaches meaning to strategy execution (Kotter, 1990). Transformational leaders can spark both solutions and ideas in team members by showcasing a strong vision and facilitating solution-finding work sessions (Lehmann-Willenbrock et al., 2015). Participant IE10 linked a clearly communicated vision directly with the success of the innovation. Participant IE18 mentioned a central innovation vision. Participant IE5 accentuated the effect of a clearly communicated vision:

- *'The innovation can either be a completely new idea or innovation, or a modification to an existing product or renovation. The vision must be clear to ensure likelihood of the success of the innovation.'* (IE10)
- *'with one central vision, and encouraging action in finding innovative solutions, working to an improved development.'* (IE18)
- *She had an unfaltering clear clarity of what she wanted, and so it was clear to everyone what they needed to do to make that vision work. And also, just to drive, to push it through. As the leader, she wasn't just going to back-off at any stage, she was always, you know, going through, like for even doing now (indistinct) there was no doubt, it was a constant moving forward.'* (IE5)

On one hand innovation vision and strategy provide inspiration, possibility and potential of what can be achieved (Harborne & Johne, 2003), while on the other hand they should provide sufficient boundaries to avoid distracting directions that often translate into high-opportunity cost (Super, 2020). No grocery retailer is an exact copy of another; each has their own nuanced approach to meeting their particular end-consumer base (Nandonde, 2019). Within the offering of any grocery retailer, planning is required to ensure that product categories or ranges sufficiently meet the end-consumer needs (Makhitha, 2019). According to innovation expert participants, once the general vision and direction was set, there was a more practical aspect in strategically planning categories:

- *'So, there are a couple of things. First of all, we would have mapped out, as part of my private label strategy, I know which categories I want to go in, which categories I need to hand some volume into, which categories would be nice to hand some volume into because wouldn't that take the pressure of it and I think I can offer it at a better price and a better taste and a better this to that. Or I want to try something new, wouldn't it be nice for me to do it via retailers.'* (IE6)

According to innovation expert participants, leaders provided a broader vision that could then be translated in greater granularity to sufficiently plan product categories and product ranges. The first theme of this subsection illustrated the significance of the leader as innovation champion, the chief instigator of systems and structure, and casting of a compelling vision with a concomitant strategy:

- *'You can't expect behaviours that are different within the team. So, it usually starts with the leader. If the leader is very open-minded, listen to people, respect and trust that people are intelligent, even in terms where it challenges the leader himself or herself, then naturally all of those will be reflected in the team.'* (IE16)

In line with the reference by participant IE16 relating to the team as a reflection of the leader, and as elaborated upon in the next theme, the internal team dynamics and organisational culture also contributed significantly to a healthy innovation ecosystem.

6.4.4 Theme 2: Internal team relationship-dynamics and organisational culture contribute to a healthy innovation ecosystem

Ideally, where many role players are involved, there needs to be decisive leadership to enable a trickle-down to all parties to ensure maximum alignment (Hult et al., 2000). The dovetailing of people ensures that the innovation journey is completed in unison (Mumford & Licuana, 2004), since each role player plays such an essential part in ensuring a product is successful (Midgley, 2009). Each role player contributes specific expertise (Tufano et al., 2018) with knowledge from their particular discipline and vantage point (Hauschildt & Kirchmann, 2001). Managing the knowledge exchanges is not as straightforward as simply inviting the flows of knowledge (Hughes & Perrons, 2011). There needs to be an establishment of a work environment and organisational culture that inspire team members to bring forth their knowledge (Catmull, 2008; De Jong & Den Hartog, 2007; Gumusluoglu & Ilsev, 2009). In cases where innovation is prioritised and supported with the pervasive organisational culture, innovation success ensues (Iyer & Davenport, 2008). The second theme that emerged from the innovation expert data set pointed to the significance of team diversity, organisational environment, organisational culture, and approach to innovation failure.

6.4.4.1 A diverse team enables multiple perspectives and knowledge inputs

Team diversity can be in the form of diverse disciplines, such as commercial, technical, or new product development (Super, 2020). The more diverse the team, the more diverse the knowledge inputs from

each team member (Czarniawska, 1997). A wide range of inputs or vantage points regarding a particular innovation challenge enables essentially extensive devil's advocacy done in-house (Rock, 2007). Practically, since each of the aforementioned disciplines have their own key performance indices, each departmental representative is incentivised to defend their particular aspect, and thereby as a collective ensures creative resilience (Terziovski & Guerrero, 2014). For example, commercial buyers are tasked to ensure product price appropriateness to ensure end-consumer purchase and re-purchase (Terziovski & Guerrero, 2014). For the rudimentary purpose of end-consumer response, commercial buyers will act as custodians of price, to ensure development is dovetailed accordingly (Terziovski & Guerrero, 2014). Food technologists ensure that production occurs within a strict hygiene code, governed by a series of systems and comprehensive documentation to support the code of conduct (Terziovski & Guerrero, 2014). End-consumers develop increased grocery retailer brand-trust when the products they consume are fresh and appetising, and therefore stand the best chance of a customer re-purchasing the same or a similar product in the future (Kunamaneni et al., 2019). As each department or discipline defends their non-negotiables in a type of upward spiralling tug-of-war, each challenge only increasingly refines the product innovation (Hult et al., 2000). Alternatively, the process of combining knowledge from diverse perspectives can be a more harmonious interweaving of aspects (Osborn & Marion, 2009). The harmonious interweaving is supported by participant IE19 in an example of collaboration between product innovation and marketing. Participant IE15 described the refining process via multiple perspectives to resemble an improving and powerful snowball.

- *'Product innovation and marketing need to work extremely closely together and value each other's unique skills that they offer to innovation.'* (IE19)
- *'Ja, and then they can't - so to me the biggest draw in that, is marketing launched the product, right, so they need to understand that insight right from the beginning, because if they don't get the insight, then like how do you launch the - and it's almost like a snowball, so in the beginning that insight is gathered, but as the project grows, that snowball is getting bigger and bigger and fleshier and fleshier. So, personally, I think like they're an integral part, right.'* (IE15)

The notion of achieving buy-in or collaboration with all departments was brought to the fore in the context of sustained buy-in from the start (IE15), building goodwill with other departments to create a greater sense of project ownership and accountability (IE1), and the active management of professional egos and maintaining a bigger picture (IE18).

- *'But you can get ones where marketing is early, like from the beginning stages, involved and food and marketing work together, and then take it down the funnel with one person leading it. And you could have that, the best way I find is often with marketing.'* (IE15)
- *'Innovation teams need to build goodwill with these groups in order to get buy-in and ultimately join accountability.'* (IE1)

- *'I often found not being protective over fields of expertise was helpful. Even when innovative ideas are directed outside of one's expertise, and infringing on another, it is critical it is seen as constructive, not as turf creep so to speak.'* (IE18)

In a practical sense, facilitating diverse inputs to be useful to the innovation process is part of a deliberate knowledge management strategy (Kruger & Johnson, 2010), which was echoed by participant IE9. The management of knowledge with the aim to advance innovation performance is infused with nuance (Nonaka & Takeuchi, 1995), particularly matched with the specific innovation outcome that is sought (Kruger & Johnson, 2010). In other words, there is no fail-proof generic knowledge management formula to ensure success (Birasnav et al., 2011). On one hand, an open, curious and absorptive knowledge funnel enables maximum value extraction to apply to the process. On the other hand, time is always of the essence, and the point of absorptive capacity is at the mercy and sensitivity of the time-to-market window (Tsai, 2009). In other words, an organisation can effectively capture every voice, but in the process fail to launch on time (Sjoerdsma & Van Weele, 2015).

- *'The frame of how you communicate it and how you get the team involved. Literature suggests the more heterogeneous the team is the more innovative the solution... But typically, its tricky. So, how you create the team and the ways you value diversity within the team should be explicitly discussed during team formation.'* (IE9)

A deliberate structure to entice and facilitate diverse inputs is firstly in ensuring an appropriate level of diversity is in place (Bönte & Keilbach, 2005; Tsai, 2009; Wagner & Bode, 2014). The ideal degree of diversity should be achieved in tandem with the specific innovation quest at hand (Kruger & Johnson, 2010; Van de Ven et al., 2008). Participant IE8 directly confirmed the notion of matching a specific organisation's innovation quest to a strategy for knowledge management. Participant IE2 stressed the importance of establishing a golden thread from start to finish, and not operating in separate silos.

- *'Ja, it depends on which organisation you're in, because in some of the retailers that is very strong, the buyer (indistinct) for everything, and those suppliers, I mean those retailers tend to be very low on innovation, you know, they almost have to separate it out of the department to get innovation. So, if you look at the convenience range in [grocery retailer name], they ring-fence it, that's the only way they've got to go, because if they left it up to traditional buyers, it would just never happen.'* (IE8)
- *'The secret to success is, there is one person that's ideally marketing. I think from where [grocery retailer name] is, they don't really work together, it's kind of a silo thing, I do development in my category and you in yours, nobody is thinking across (indistinct) and say okay, how can we build a better range.'* (IE2)

Thematically it was clear that team diversity was relevant and its degree should be matched to the desired innovation outcomes, specific to the particular organisation. In other words, each organisation

or industry should determine how many disciplines or departmental voices are required to perfect the innovation in order to achieve product innovation performance for the particular setting.

6.4.4.2 The organisational environment and culture in which innovation is to occur plays a significant role in innovation outcomes

Organisational culture is achieved through co-creation (Sarros et al., 2011). It involves leaders prioritising cultural aspects implicitly and explicitly (Hueske et al., 2015). The culture of the organisation is co-created by team members in the same deliberate or inadvertent manner (Sarros et al., 2011). In other words, there may be purposeful and considered inputs in the culmination of organisational culture, while there may also be inputs that are purely coincidental (Hueske et al., 2015). An organisational culture that promotes collaboration towards a combined goal and achievement was echoed by participants IE8 and IE3. The creation of a collaborative culture requires leadership and team member buy-in at all levels (Hauschildt & Kirchmann, 2001).

- *'You see that's an example of what we discussed earlier, if you don't have that respect, that togetherness, that sort of working together.'* (IE8)
- *'A team player approach "We are all in this together" "One Team/ One Dream". The knowledge that a win for one, is a win for all.'* (IE3)

The state of the organisation's culture is reflected throughout the levels - from most senior to junior (Georgianna, 2007). In addition, the creation of culture occurs over a period of time (Perlow & Weeks, 2002). By the same token, the doing and the undoing of a particular organisation's culture requires some time (McLaughlin et al., 2002) and cannot be undone by mere identification of flaws (Perlow & Weeks, 2002). Participant IE17 described organisational culture as reverberating throughout the organisation, which confirms the existing literature:

- *'I'll never forget, the first meeting that I ever went to at the fresh DC at [retailer name] around 2005 or so, when I parked and I walked in, all the DC staff were outside, lying on the parking lot, literally lying in the parking lot, eating their food and their lunches and doing nothing and just lying around, playing dominoes, making noise and whatever. I walked in there and I said no, these guys will never be able to do anything except move Omo around. It's just not - they just don't get it, and you can't fix 50 000 people that can't think right. So, in the fresh space, it's ... so they do get let down in stores a lot. But again, the buyers, they're the same types of people and generally they're a lower calibre of operator, person I would think, the [retailer name] guys, ja.'* (IE17)

Participants IE3 and IE5 described organisational culture in the context of safety and the celebration of new ideas. These aspects of safety and appreciation relate to a deliberate leadership style that prioritises a positive culture and then, as a result, reverberates throughout the organisation (Subramanian & Nilakanta, 1996). The development of an entrepreneurial mindset in a business context is referred to as intrapreneurship (Camelo-Ordaz et al., 2012) and relates to team members

having an approach to exploring new ideas with the gusto, ambition and resolve of an entrepreneur (Yun et al., 2020), as well as taking ownership (Ahmed, 1998). Participant IE12 linked innovation performance to having an entrepreneurial mindset, combined with the presence of clearly communicated organisational culture:

- *'Innovation is a cultural mind-set. The leaders need to create a place of psychological safety for employees, where they feel comfortable in taking risks.'* (IE3)
- *'What was contributing in the environment? I think it was an open culture of sort of being awarded - not awarded but they would listen. So, if you came back with an idea, so you were getting this from the retailers as well, and you'll come back and say - and they were talking about this the whole time, and then I might not have (indistinct) seen something that could fill that gap, and this is an open communication with ideas. And I think that was celebrated in the company, of like new ideas, and also it was very quick.'* (IE5)
- *'Entrepreneurial mindset and organisational culture.'* (IE12)

Organisational culture is developed over a period of time, co-created by leaders and team members, in a deliberate as well as inconsequential manner. It has significant implications for the innovation process in providing the correct level of comfort and challenge for team members to ultimately achieve innovation performance.

6.4.4.3 The organisational stance regarding failure affects organisational culture and innovation approach

An organisation's stance on failure, and how this stance gets fossilised in the organisation's culture, has vast implications for innovation performance (Terziovski & Guerrero, 2014). While failure would never be a goal for any team, the learning that can be extracted from failure may often be a great contributor to future success (Hueske et al., 2015). If failure is vilified to the degree that any form of defeat causes shame and derision, its avoidance may lead to risk aversion, hesitation and inertia (Sheehan, 1999). According to participant IE19, a small and relatively inconsequential failure may lead to valuable knowledge that enables tweaks for future improvements. In the same vein, participant IE12 framed failure as an aspect for speedy recovery and learning.

- *'learning quickly and failing cheaply... piloting a new product in a specific region before extending.'* (IE19)
- *'Accepting of failure and the ability to not just tolerate failure but to encourage their team to try, fail fast, learn from failure.'* (IE12)

Participant IE8 was of the opinion that often failure may occur owing to extenuating factors such as the wrong time of launch. The notion of extracting learning from failure is found in a more open-minded approach, as opposed to dishonouring failure (Torrise et al., 2018).

- *‘So, one of the things I used to do, is say, let’s go get the file. Which file? The file - the ones that didn’t work, because what you learn in retail very quickly, is it might not work now, but six months from now it will work and you will not know why, and we did plenty of those where we launched it two or three times and then suddenly it got traction and just went off, but you can never tell because there’s some many factors that play a role in terms of something being successful. When the climate is going well and everybody’s got a lot of money, it’s a lot easier, because then you can charge more for things, but when it slows down, then you have to be completely different about your strategy.’ (IE8)*

Innovation leaders can support the innovation journey in ensuring that the culture establishes a balanced approach to failure (Hueske et al., 2015; participant IE1). While the notion that high levels of accountability should prevail in the innovation journey, this should not, according to participants IE3 and IE8: (a) discourage exploring blue-sky options and so-called ‘thinking out of the box’ in order to obtain novel solutions; and/or (b) lead to ridicule for venturing beyond potentially tight performance boundaries.

- *‘This talent then needs to be supported by leadership willing to entertain risk/with a fail fast and learn mentality.’ (IE1)*
- *‘And I think - sorry - in innovation, that’s one of the biggest issues is people want to control it, they want to control the risk of failure, and [retailer name] is doing it now. They put KPIs in place, you have to be so much successful, they’re killing innovation, because who is going to launch if they’re not sure?’ (IE8)*
- *‘They need to know they will not be ridiculed for their mistake or have any shame because of failure. This kind of behaviour can be rewarded through recognising individuals who take risks even if the project does not satisfy the KPIs set.’ (IE3)*

A culture that allows exploration beyond the confines of key performance indices or innovation boundaries can often lead to new discoveries or improvements (Christensen et al., 2008). The ability of team members to communicate without constraints or dread was supported by participant IE19.

- *‘Ensure that there is no fear to raise concerns, but rather to have an open and transparent dialogue. Often there can be a glaring flaw in a project, but team members get swept up in it and feel they need to continue. Being brave enough to stop and reassess is an important behaviour.’ (IE19)*

Once the parameters for failure to match the industry and organisational specifics was ascertained, there needs to be appropriate scope for experimentation, queries, invention, and troubleshooting, without a pervasive fear of failure repercussions.

6.4.5 Theme 3: Internal and external team relationships with an open innovation approach is not a linear or predictable

Open innovation is defined as bringing together different functional teams or “varied thoughtworlds” (De Clercq et al., 2011, p. 680), typically removing the separation between suppliers and retailers from

a research and development perspective (Zhang et al., 2015). Advantages include cost saving, learning, and time-to-market advantages (Cheng & Chen, 2013). According to Fawcett et al. (2012), trust builds over time, from limited trust at the inception of a relationship, to transactional trust, to relational trust, and culminating in collaborative trust. Building trust is closely related to mitigating risks both from the supplier and retailer perspectives (Autry & Golobic, 2010). From the innovation expert participant responses, it was apparent that there may have been a formal relationship between the retailer and the supplier, confirmed by trading terms and formal agreements. Concurrently, the team members involved in collaboration from both supplier and retailer also formed relationships. Personalities play a relevant role in the greater retailer-supplier relationship (Dulebohn et al., 2017; Dulebohn et al., 2012). In some cases, a negative relationship between a commercial buyer may diminish the full advantage that can be achieved with the supplier organisation (Autry & Golobic, 2010). Likewise, in cases where strong interorganisational relationships exist, elements of upside could be achieved through internal lobbying (Johnsen, 2009; Wu & Wu, 2015).

6.4.5.1 Suppliers are valuable innovation partners to retailers in the achievement of product innovation performance goals

Suppliers generally operate in specific niches where they develop their capabilities, and form their own ecosystems of knowledge and advantage (Ganesan et al., 2009; Johnsen, 2009; Pisano, 1990; Tsai, 2009). Echoed by participant IE3 and IE19, the specialisation that occurred on supplier level would always bolster the knowledge of the retailer. The supplier's technical prowess would always trump that of the retailer and therefore bring an accuracy to the proverbial development table (IE10).

- *'Suppliers have the expertise of that particular food or drink item in the grocery context. They have whole teams dedicated to research and development in that particular category e.g. with innocent drinks, they had the correct food development people, nutritionists and sustainability gurus to deliver the best smoothie product to market in the best type of packaging.'* (IE3)
- *'The supplier should be connected to trends, have a strong sense of the market, the right competencies, have dedicated/sufficient resources to be responsive, listen well and communicate effectively and regularly, keeping to their commitments and turnaround times.'* (IE19)
- *'Suppliers often have very deep technical understanding of what is possible and what can be achieved.'* (IE10)

Collaborating in a transparent open manner enabled competitive advantage through greater efficiencies (IE2) and lower costs (IE9). An interdependence is developed where resources are pooled for dual benefit to both retailer and supplier (Fernie & Sparks, 2018), which ultimately enables efficiency and efficacy of innovation performance (Bednall et al., 2018; Birasnav et al., 2011; Wu & Wu, 2015).

- *'In my opinion open innovation is the ideal as it creates efficiency. Innovation in the food space is expensive and takes time due to food safety and other requirements that have to be met.'* (IE2)
- *'Openness creates efficiencies... but not to the detriment of competitive advantage. Given most of the advantage is around lower costs working with suppliers to achieve this is beneficial.'* (IE9)

The advantages of diverse internal team inputs were discussed in Section 6.4.4.1, which were extended to cover diversity-of-knowledge accessed through suppliers (Ren et al., 2015) and were echoed by participant IE10. Collaboration opens up the realms of possibility, often in a practical and localised manner, owing to the narrow purview occupied by suppliers.

- *'Two minds/ perspectives are better than one when it comes to innovation- collaboration is key. Suppliers often have very deep technical understanding of what is possible and what can be achieved. Retailers are able to fully understand the processes in the supplier environments and thus should risks arise, have a clear view of how. Collaboration allows for pushing the boundaries and limitations to come up with solutions.'* (IE10)

When the innovation relationship between a retailer and supplier occurs in a transparent open manner, the upside can be substantial from a commercial gain perspective. Open innovation enables multiple perspectives and varying levels of expertise to blend into fine-tuned innovation.

6.4.5.2 Supplier relationships require time, development and investment to unlock advantages

In order to achieve a retailer-supplier relationship that is advantageous and with open channels for knowledge sharing, a significant amount of time needs to be invested (Fawcett et al., 2012). For a high-quality exchange to occur, trust needs to be established (Cheng & Chen, 2013). Establishing trust requires a layering of positive experiences (Dulebohn et al., 2012). Both parties need to invest human resources, and suppliers more often than not also need to invest capital in equipment and specialised ingredients (Albors-Garrigos, 2020). Participant IE4 pointed out that trust is built over time and trust enables a free-flow of communication:

- *'the communication part which is so critical and building up relationships, and the culture part, what is - a relationship is built on trust, and if that trust isn't there, we often can see when teams don't work effectively.'* (IE4)

In the presence of active retailer-supplier communication, the mechanism for knowledge exchange exists:

- *'When there is hesitation amongst teams and supplier, of showing information or not show how, there is either then showing or guidance required, or there is actually a fundamental issue in the relationship which needs to be rebuilt.'* (IE4)

In cases where trust has been broken, the scope exists to rebuild it:

- *'let's do a trip together or just spend time together to get to know each other, to rebuild that trust. When there is hesitation amongst teams and supplier, of showing information or not show how, there is either then showing or guidance required, or there is actually a fundamental issue in the relationship which needs to be rebuilt. And once that relationship is rebuilt, the team start working far more effectively with each other, but it's ja, it's making sure that - it's that upfront part which is so critical. Once the upfront thinking is there, all the projects and everything goes wrong, is when you're right at the end and there wasn't enough effective time spent upfront.'* (IE4)

The time investment by both parties also hold some opportunity cost component - for the supplier to develop a tight tie with one particular retailer may mean that developing a tie with another retailer to the same degree may need to be sacrificed (Yun et al., 2020). Likewise, a retailer has finite resources and selecting the appropriate supplier to develop a tight-tied relationship requires discernment (Granovetter, 1973). Participant IE6 indicated the importance of understanding the level of investment to match the relational strength.

- *'Or you overinvest in the opportunity, you don't get the business and you have a hole in your pocket at the end of the day.'* (IE6)

A retailer-supplier relationship also thrives on tangible information relating to the time horizon (Fawcett et al., 2012). For example, when a retailer maintains a long-term view on a project, it gives suppliers the certainty to invest resources, according to participant IE4.

- *'Why it's important to involve strategic suppliers at that point in time, and especially strategic supplier and you asked that from me long ago as well, is that there is no point in presenting a plan which is not achievable, especially if it's a 12-to-18-month plan with (indistinct). You're wanting to involve the supplier, and we normally say - the operational plans are presented in February/ March, teams normally get debriefed in February, that November there is a bit of a lapse before Christmas, if you think of Christmas, it's to meet with suppliers and going okay, so you do the same, we give them the tip and the formula, you go do the same, you go away and you do exactly the same analysis around your own business, plus you go and look at what is happening in the market, and let's meet together as a team because we're in a partnership. And let's make sure that our business plans are still aligned, or we need consider something in yours, but also supplier needs to consider something in [retailer name], again there is a gap. And then [brand name] created those plans which they put forward to the business, and once it gets signed off, what happens as is there is a project A, B, C and D which fits out of it.'* (IE4)

While the literature regularly supports the capital investments made more often by suppliers (Albors-Garrigos, 2020; Cormican & O'Sullivan, 2004), participant IE7 explained the need for the retailer also to invest in ensuring that a new range is launched with adequate marketing support, which requires capital.

- *'Even, you know, taking it closer to home, [product brand name] that's a success. I mean, if I talked to [team member name] or if I talked to [team member name], those first three to four years, they sunk a lot of money in it. [team member name] didn't get paid salaries for months on end, you know, neither did [team member name], neither did [team member name], you know, they sacrificed for the long-term view of the brand, of the product development.'* (IE7)
- *'They've built the [retailer brand name]'s brand, [retailer name] has, over time, they've invested, they've built the [retailer brand name] brand over time, they've invested in that brand, they've taken a long-term view in that situation.'* (IE7)

A supplier that is both strategic and exclusive should be afforded more leniency if a mistake is made, as against a supplier that is more of a basic or elemental supplier (Fawcett et al., 2012). The level of investment by the retailer is matched to the level of strategic priority of the supplier (Autry & Golobic, 2010). Participant IE4 brought to light the usefulness of creating supplier segments, each with a corresponding level of retailer support.

- *'Absolutely. I think if it's a strategic supplier, exclusive strategic supplier and there is a commitment to him, I mean, obviously everyone makes mistakes. I'm just kind of purely from my side now. When I've been a product developer in a team and you're working with a team, but also when you have to sometimes, there is interventions and players, and there is like all levels, that's why I suppose we have the levels of there is like a leadership level, this is a strategic supplier, we buy, sometimes it's for a team, a strategic supplier, sometimes it's for the business. And it is really about going - being committed, it's not working, how do we make it work. And it depends. It could be an intervention at a high level while your business model is right or you've diversified too much or - and you definitely can get that relationship right again with the right level of investment into it. Does that answer you?'* (IE4)

The increments of interactions are, after all, conducted between individuals - so the role of personal connection, camaraderie and collaboration contributes in building quality retailer-supplier relationships (Zhou & Schriesheim, 2009). Internal and external team relationships required time to develop. The passage of time, combined with increments of accumulating experiences (whether good or bad), contribute to the overall quality of relationships. The quality of the particular relationship is therefore the sum of all the individual interactions and is not a measure of perhaps one single negative experience, but rather the accumulation of experiences. It is also clear that personal relationships from both sides of the internal and external teams played a noteworthy part.

6.4.5.3 Risk management should be conducted by both supplier and retailer

Open innovation requires a level of exclusivity (Albors-Garrigos, 2020). A supplier cannot benefit from the same level of transparent knowledge flows, to and from a retailer, and expect supply parameters to be acceptable to also form such a tight tie with a retailer's competition (Hughes & Perrons, 2011). By the same token, a retailer invests time and resources in forming a trust relationship with a strategic supplier, with the assumption that this supplier is the best possible supplier to the retailer (Roscoe et al., 2016). The retailer also trusts the supplier to produce products displaying the retailer's brand, and,

with that, the retailer's reputation (Ganesan et al., 2009). The opportunity cost of which supplier or retailer to partner with, therefore, is a valid and substantial aspect to satisfy (Fernie & Sparks, 2018). Participant IE10 anchored communication as a regulator of risk, especially when done in a collaborative manner. Participant IE14 linked risk management to the management of trust and integrity:

- *'It is important to communicate between supplier and retailer in order to manage risks. If the relationship is collaborative then supplier and retailer will be able to easily identify risks, measure the gravity of the risk, examine several alternatives or solutions then implement and monitor the risks collaboratively.'* (IE10)
- *'So, that trust and that integrity thing.'* (IE14)

Open innovation between retailers and suppliers was viewed as advantageous and should therefore have been marked with transparent and constructive conversations, according to participants IE18, IE3 and IE19. In an ideal context, these innovation expert participants described risk management to occur upfront, contextualised by impact assessments and mitigation strategies.

- *'Robust performance conversations, with constructive tone, discussing risks & key performance metrics. Treating the buyer/seller relationship as a partnership where risks are openly discussed and solutions are crafted together.'* (IE18)
- *'Open communication, governance/ steering committee meetings which are held regularly with updates on risks and how to mitigate those risks.'* (IE3)
- *'Risks should be considered upfront and all along the project. They should be weighted according to impact to the project delivery. Mitigations to these risks should be review frequently by all parties.'* (IE19)

The innovation expert data set produced a realisation that a true retailer-supplier collaboration could never be a true partnership, in the opinion of participants IE17 and IE6.

- *'Any expectation that a retailer is going to stick to their word, I think is very childish, very, very childish.'* (IE17)
- *'The same for ingredients, because they wanted a specific ingredient made in a specific way, where you bought a changed part for a machine, it's now depreciated on your books and it's not depreciating on their books. So, it very seldom can be a true partner relationship. Or my favourite is that they want an open book costing.'* (IE6)

Both retailers and suppliers hold some risk in pursuing an open innovation relationship. Managing the upside of knowledge flows and secure revenue require juxtaposition regarding risk appetite and how prolific knowledge sharing and resource investment should be to ensure that the collaboration is symmetrical or at the very least transparent regarding asymmetries.

6.4.5.4 A pervasive transactional cycle threatens ideally developing partnerships

A variety of role players are involved, as part of either internal retailer teams or external supplier teams, in achieving product innovation (Van de Ven et al., 2008). Among the internal team members, each department is required to perform a set of key deliverables, which does not always correspond perfectly with the requirements of another internal team member (Elg & Paavola, 2008). For example, commercial buyers may negotiate for the best trading terms (Watson et al., 2015), while the marketing team may be required to deliver a return on capital invested to achieve market penetration (Frances & Garnsey, 1996). Internal retailer teams scrum internally in the run-up to a product launch with an expectation of product innovation performance (Elg & Paavola, 2008). In addition to the internal team drive for innovation performance, the suppliers involved have their own set of objectives to fulfil. Suppliers invest resources and require a return on their investments in the form of sales traction of newly developed products (Fernie & Sparks, 2018; Zhang et al., 2015). None of the role players, be they internal or external, share exactly the same key objectives (Elg & Paavola, 2008). The propensity for each role player to focus on their own requirements for success, therefore, causes a fragmented collaboration towards innovation success (Elg & Paavola, 2008). Participant IE7 articulated the lack of collaboration between internal team members in ensuring components were in place to support the supplier relationship. Internal team members did not approach the relationship with suppliers in a coherent and unified strategic manner. As an example, the commercial buyers negotiated the trading terms without considering the marketing expenses required to make a new product launch effectively.

- *'... that's in marketing and that's the problem, because there's no long-term partnership and saying we start more, we work together on trading terms, we work through this and so forth, we understand we can't afford this at this stage but we want you to invest this at a later stage, there is no time to sit and have a discussion, it's a pure transactional discussion and you need to make it work. So, the big car houses, they can make it work with R60 million if they sacrifice another brand investment to do it, but ja, I mean, imagine you did that with an [brand name], where would the [brand name] be these days, you know, good product but it just could not get the exposure that is required.'* (IE7)

Participant IE8 described how a supplier was not considered for their whole contribution to the retailer. Instead, the supplier was strong-armed by the commercial buyer, while the retailer in reality urgently required the innovation the supplier could bring for competitive advantage.

- *'It doesn't work like that, you know, you actually - and even now with some of the changes we're experiencing now, the supplier base will change, because they're feeling uncomfortable. There's a bigger mind-set coming in, so the smaller guys it's just like, you know, I don't want to be part of this, I don't want to be treated like this, every year, as they get beaten up for extra money because [retailer name]'s books don't stack up, you know. You can't have a relationship like that, it breaks down the very essence of what a relationship is. So, although they talk about it, I think a lot of the leadership doesn't get it actually.'* (IE8)

Participant IE17 assessed all the South African-based retailers to be purely transactional in their supplier management style. The same participant asserted that “knowing where you stand” and having a semblance of loyalty were key elements and that a transactional “toughness” on the retailer’s part was palatable if loyalty and transparency were present.

- *‘They were all entirely transactional. There’s very little - you know, [retailer 1] is the worst of them actually, they are by far the - I mean, by far the worst retailer to do business with, by far. And oddly enough [retailer 2] is probably the most loyal of the logs. They’re very tough, very, very tough, but that doesn’t mean they’re disloyal. I mean again, there’s a difference between being tough and being loyal. [Retailer 2] is the most loyal of the lot, and I really enjoy working with them, which a personal style (indistinct) very much with me, because you always know where you stand and they’re very clear on where they stand it is very tough, and they don’t make any promises, or they don’t position themselves as X and then behave as Y. You know when going into [retailer’s competitor name], they’re very tough, their job is to get every last cent out of you and pass it on to the customer, and they do pass it on to the customer, they don’t line their own pockets with it, they pass it all on, you know. And you know they’re going into it, and when it’s done, it’s done. You know, a 20-minute chat or whatever, you’re finished and now we carry on. But they’re not - they definitely don’t then go and have another discussion with someone else and reverse what they said to you and whatever. So, [retailer 2] is by far the best, but they’re all very transactional.’ (IE17)*

Excerpts from the interview with participant IE17 contributed to the full picture and real dilemma of retail innovation and clarified specifically why the relationships were all fraught with a primary presence of transactional leadership behaviour. The cycle of transactional behaviour starts with the end-consumer: if an end-consumer cannot purchase what is intended to be purchased, this informs how future purchases occur. The immediacy of performance relates back to the supplier who needs to deliver on time and with accuracy.

- *‘I’ve concluded over time that it’s going to be very hard for a retailer - I mean, you’re only as good as your last delivery.’ (IE17)*
- *‘You’re only as good as your last delivery. And I think the reason all retailers are so transactional, is because their customers are so transactional, you know. If you walk into a store or you as a customer walk into a store and there is no chicken on the shelves or whatever, it doesn’t really matter whether there has been chicken on the shelf for 10 years. Today you want the chicken and today you are upset, right now. The last 10 years don’t really matter, I want the chicken now.’ (IE17)*
- *‘Again, go back to now. If you fundamentally think of them as now-machines, like four-year olds, any expectation that there is going to be anything - I think it’s possible for them to do it, I don’t say it’s impossible, but I think it’s naïve. If you expect them to be now-machines and you think of them as now-machines because their customers are now-machines, then don’t expect to do something today and get a pay-off in two years.’ (IE17)*

To link with participant IE17’s articulation of immediacy, participant IE7 pointed to the shareholder fixation of short-term performance.

- *'And the flip side can also go to the retailers. So, the retailers, in my opinion, have got similar shareholders in that situation, and not privately owned. So, they want immediate rebates, they want immediate investment, immediate marketing, which often puts pressure on the supplier who probably can't afford the terms and the investment in that situation, or makes them unprofitable and therefore their shareholders come to visit six months later. So, generally that's probably the situation. That's my first point.'* (IE7)

Participant IE6 articulated a couple of aspects that contributed to the presence of transactional behaviour in grocery retail organisations. A strategic supplier to various retailers were often subjected to a tender process without collaborative development, which contributed to general uncertainty. In cases where suppliers supply their organisations with the necessary resources to conduct product development for subsequent participation in a tendering process, dysfunction can ensue in the open innovation journey.

- *'You know, it's becoming more and more difficult, because these are becoming tenders that are just open to the world. So, we've just been in the process for tender. So, we said we'd really like to come to your offices and mix the stuff up for you and show you how to mix, what if you do it wrong, what if you just look at these blank pieces, what if you don't understand it, because that for me is a huge challenge. It's paper-based and not relationship-based as a start.'* (IE6)

Participant IE6 made reference to additional transactional behaviour when it concerned unforeseen price increases. The norm seems to be scheduled price increases; however, some industries may set prices more regularly, thus requiring frequent price adjustments throughout the supply chain (Kohnert, 2019). In the case of unscheduled and unplanned raw material price increases, often linked to exchange rate changes, and not within the purview of a supplier to predict, according to participant IE6, the supplier was still required to absorb these fluctuations. The non-negotiable aspect relating to pricing further demonstrated the inherent power struggles and transactional aspects inherent in retailer-supplier relationships:

- *'Ja, they think you must just absorb it [raw material price increases]; you must make it happen. Okay, then that's fine, no MOQ, so I'm going to push the cost of price, the seller, the packaging client tells you oh, it's going to go up 15%, and you'll absorb that because you hold this much stock, that's ... we'll take our business elsewhere, so which point do I walk, which point do I absorb? So, the difficulty with food and looking after those 14 million people, is food manufacturers do absorb some cost increases because particularly if you're in commodity-based food or in core food that people need every day, people are not willing to pay - the frequency can't drop in order to have a food-stable, healthy nation. It's not a luxury that they can just choose to buy less of and it's okay if the price has gone up 23%. So, what do you do? How much do you absorb and how much do you pass on? We then have the - because the retailers just won't accept your price increases, they just won't accept it, and you kind of go do you think we make that with our, like our hands and toes? Like some of the South Africans work in the factories where they need increases and they need ... and no one thinks through the full value chain. And it astounds me. I said one day I'm not going work in this and then I'm going to come and tell the world how it all works, but it's not a considered thing. So, while you're helping, you know, [retailer name], we've reduced the price of this and we*

beat inflation! No. Somebody has absorbed it. Somebody has absorbed it. Because guess what? The average wage bill is going up between 5 and 7%. There are very few places that are giving nought. Why? Because the strike rates and the labour law in this country is just far too stringent for it not to happen. You know, the import rate and the dollar exchange and the pound exchange and the Euro exchange means that the cost of goods have gone up. Oil has gone through the roof. Maize has gone up. Wheat has gone up. All the basics. Sugar, two price increases, 19.7 and 7.5.' (IE6)

- *'And then they still want to know which part of the sugar has gone up. More sugar has gone up less than that, you know, like a - because that's brown sugar and that's castor sugar. But why would it not be the same? I'm like, are you stupid? And you have to actually have that conversation, and those frustration where you kind of go just let us do our job. But you do our job, and if we hurt together, we'll feed those people. So, ja, it's difficult.'* (IE6)

The prevalence of retailers operating in a transactional manner in their conduct towards suppliers was best demonstrated via: (1) a requirement for immediate and short-term high-performance; (2) pervasive power exertion from certain internal team members, such as commercial buyers; and (3) asymmetrical cost absorption in the case of unforeseen raw material price increases.

6.4.6 Theme 4: Product innovation performance is anchored as end-consumer relevance

Many of the innovation expert participants focused on the prominence of defining product innovation performance in terms of measuring the end-consumer's response to what had been innovated. As per previous references in the literature, innovation is specifically linked to commercial response (Trott, 2012), and therefore deemed a success when there is purchase and repurchase (Kunamaneni et al., 2019). The end-consumer as the ultimate litmus test is particularly valid in a rudimentary grocery retail setting where immediate need satisfaction is the order of the day:

- *'If you expect them to be now-machines and you think of them as now-machines because their customers are now-machines, then don't expect to do something today and get a pay-off in two years.'* (IE17)

6.4.6.1 The end-consumers of products are the ultimate litmus test in the product innovation performance journey

There needs to be a commercial response as a direct indication that the innovation is successful (Albors-Garrigos, 2020). If no one is willing to purchase and repurchase a product, it can be considered an innovation failure (Midgley, 2009). Participant IE7 confirmed that the innovation was only as good as the consumer's response to that innovation:

- *'many times, you have a launch only three months, but your innovation is only as good as your consumer pick-up, and consumers, your best marketing, your best support is where the mouth is.'* (IE7)

An accurate picture of what the end-consumer might respond to enables the development teams of the supplier and retailer to dovetail this with the innovation roadmap (Breuer et al., 2014). A detailed understanding of the end-consumer is ascertained at the beginning of the innovation journey, which includes an assessment of end-consumer needs:

- *‘So, you have to understand that their body of knowledge is based on the fact that you start innovation from a stance of understanding a problem, unpacking a problem. They call it the clarifying stage. So, they believe you spend more time really digging deep into understanding the problem from a customer’s perspective, I look at the same body of knowledge and design-thinking.’ (IE16)*
- *‘It’s a very big question, and really I guess it starts right at the beginning, understanding your customer base and making sure you really understand them deeply and what are their unmet needs and what drives them and what’s the jobs to be done, you know, what can we do to help solve some job in their lives. And then understanding the economy, understanding the competitor set, understanding what’s happening, so it’s really that, all contextual understanding, it needs to be deep. Sometimes we think we know but we don’t really know.’ (IE15)*
- *it’s got to start with what’s relevant and what’s needed by the end consumer. Reality of brand, even a product that is made, that is sold under whether it’s a private label or a brand, is to answer the need of a consumer.’ (IE6)*

In the innovation quest to have certainty regarding what would have a positive end-consumer response, inferences often needed to be made to predict what the consumer would respond to (IE17). The foundation of knowledge to build on was prolific (IE17 and IE5); however, it takes innovation prowess to know how to adapt end-consumer data into end-consumer signal (Tsai, 2009). In many instances, knowing what the end-consumer will need may require micro-adaptations (Höyssä & Hyysalo, 2009). Other scenarios might lean more towards a disruptive innovation style involving the prediction of end-consumer behaviour, and concomitant strategy involving a future solution to a future-predicted need (Gallo, 2011; Prange & Schlegelmilch, 2010).

- *‘And I’m pretty sure the first thing that Henry Ford did when he started out with the Model T, was to look at the market for horses, you know. So, to some extent I don’t believe that somebody is really a pioneer into a true greenfield, because you’re always launching something in relation to something that already exists, whether it’s in the same category or not.’ (IE17)*
- *‘And also, I think it was an awareness of what’s going on in the market, the constant search for knowledge and interest in what’s happening in the world and what the end consumer needs, what the products were.’ (IE5)*

The assumption that cultural elements can be translated universally have been refuted in the body of knowledge (Makhitha & Khumalo, 2019) and specifically by participant IE7. A significant part of understanding the end-consumer profile is understanding the economic power; more specifically, the price at which the exchange will make sense (IE6). In addition, the end-consumer’s profile included taste preferences, for example level of spiciness or sweetness (IE8):

- *'That's how it works. The more you buy, the lower the price, the better the price you pass on to the consumer, the more they eat, then you play off a rice versus a maize meal versus a bread, and that's - do you know what I'm saying, it's completely different. And you come up here and we're going, what do they need, you know, and you've just got to go.'* (IE6)
- *'Absolutely, and if you look at the development in [retailer name] in food, it's very focused on that customer and how it's defined, down to the flavour profile.'* (IE8)
- *'they've taken the South African terms across, and there were certain things that were not applicable for Africa.'* (IE7)

Innovation is defined as such when the end-consumer votes through a purchase and, in many cases, a repeat purchase (Kunamaneni et al., 2019). Participant IE6 acknowledged the need to be consumer-centric when it concerned innovation, but accentuated the reality of manufacturing facility overheads, and that there needed to be a level of creativity in utilising capacity in order not to make a loss. A single innovation may hold great innovation success in the form of a positive end-consumer response, while the rest of the business may not be fully utilised. The asymmetry of retailer-supplier priorities further pointed to the complexity and risk held by suppliers, and less so retailers, and the need for strategic and supporting alliances:

- *'In a business like this, we are working towards end-consumer led. We're still a high manufacture focused business, we still have a bunch of factories that we have to service. So, we try and use those factories the best end needs of the consumer, but we have the reality of a cost base that you have to offset.'* (IE6)

The product innovation performance litmus test is passed through an intricate process of understanding consumer needs and nuances, and the prowess to translate the end-consumer knowledge into a manifestation in the form of a product or service. A comprehensive understanding of the end-consumer - who both the retailer and supplier see as the final end-consumer - requires knowledge flows between retailer team members and supplier team members.

6.4.6.2 End-consumer relevance is dependent on essential components working in unison and requires necessary time investments

The human resources that co-labour to effectuate a final innovation presented to an end-consumer require a system and strategy (Cantarello et al., 2013). To pose the innovation question - or end-consumer need riddle - to the team members in a supplier and retailer organisation required a unifying vision (IE15 and IE19). A diverse team that represents a variety of lenses enables resilience once finally executed (Amabile & Khairi, 2008; IE15 and IE19). In other words, the final product reaches the ideal end-consumer having run the strict gauntlet of diverse stage-gates, in order to provide the strongest chance of success.

- *'And then galvanising everybody, like suppliers, marketing, everyone around the organisation to solve that need, right. So, if I could put it into a brief and articulate this as clearly as I could, and then really grab ideas from anywhere and everywhere to try and solve that need.'* (IE15)
- *'A team player approach "We are all in this together" "One Team/ One Dream". The knowledge that a win for one, is a win for all.'* (IE19)

However, once the final innovation result is complete, additional support is required to ensure that what was created is best presented to the end-consumer (IE13).

- *'So, for me the innovation is backed by obviously the consumer education side, the retailer education side, making a visual impact, telling the story about what CVD is, what a company is, there's a whole story-telling, and to me, that's going to have far more impact in this new market than someone who is just trying to chuck something on a shelf. Does that make sense?'* (IE13)

For an end-consumer specifically to find a newly completed product or service, they may in many cases require budget allocated to product tastings, advertisements or promotions (Montoya-Weiss & Calantone, 1994; IE7). Once a product or service has successfully passed through the development phase, an investment is often required to match a product or service to its ideal end-consumer:

- *'The second thing on that element, is as a supplier in the first year, you're going to make a loss, you have to make a loss, because you know why, you have to overinvest in order to get this innovative product into someone's mouth.'* (IE7)

Some brands, subbrands and product ranges also require time to entrench themselves in the purchasing habits of ideal end-consumers (IE7). In a case where a considerable amount of time is required, the retailer-supplier relationship is bolstered if there is a long-term view rather than a short-term requirement for performance (IE7).

- *'...everyone thinks, and I'm now using clichés, but that overnight success means overnight success. But to me, to build innovation, to build a new brand is a three-year process. That's my experience with that, it doesn't matter what country I've been in, etc, what product I've been dealing with, etc, it's not an overnight success. So, when you've got a supplier/retailer relationship, so suppliers these days, the major ones, let's call it the 98% of the market, have either venture capitalists or are listed behind them, and in that situation, both shareholder portals want immediate return, they don't want long-term return. So, the shareholder impact that suppliers have these days, is making their expectation behind innovation wanting to be a three-to-six-month turnaround, which it is not. And the flip side can also go to the retailers. So, the retailers, in my opinion, have got similar shareholders in that situation, and not privately owned. So, they want immediate rebates, they want immediate investment, immediate marketing, which often puts pressure on the supplier who probably can't afford the terms and the investment in that situation, or makes them unprofitable and therefore their shareholders come to visit six months later. So, generally that's probably the situation. That's my first point. The second point on that, is let's look at what has been successful over the last while, and for me one of the most successful is the [retailer name] private brand that they had done, or the [retailer name] private brand. But in that situation, [retailer name] or [retailer name] have taken a long-term view.'* (IE7)

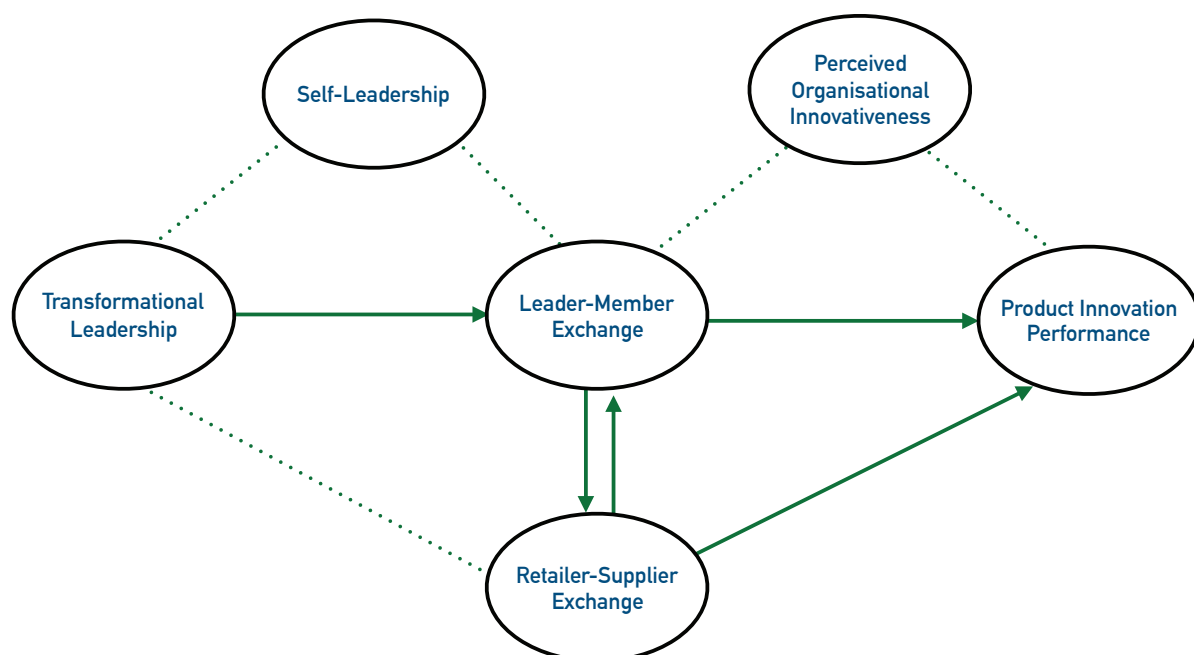
According to the innovation expert participants, product innovation performance equated to end-consumer relevance and resonance. It involved various role players from the supplier and retailer's side, all playing an essential role, in line with the specifics of the industry and organisational set up.

6.4.7 Innovation expert participant summary

The innovation expert participants provided clear themes that supported the strong link already established between transformational leadership, internal team members and retailer-supplier exchange. Team diversity emerged as a critical part of product innovation performance, specifically through advantages contributed by role players that represented differing disciplines. According to innovation expert participants, innovation was inspired when a team was unified by a healthy ecosystem enabled largely by a positive organisational culture. The innovation journey typically had a non-linear trajectory. These innovation experts also positioned the industry as being fraught with immediacy in terms of performance, stemming from the end-consumer who exerted pressure for immediate availability of conveniences, reinforced by shareholder pressure for performance in the present financial quarter. The pressure to 'perform now' is in constant friction with the notion of gearing for the future. The innovation expert participants also positioned end-consumer relevance as rooted in team members working in unison. Figure 58 depicts the conceptual model with consolidated contributions of the innovation expert participants.

Figure 58

The Conceptual Model, With Supporting Data Specifically Provided by the Qualitative Innovation Expert Participants



In Figure 58 the consolidated innovation expert participants' strongest themes enabled additional context to many of the conceptual links, specifically: (1) the substantial impact of transformational leadership on internal teams; (2) the impact of retailer-supplier relational quality; (3) the role of suppliers in undertaking the innovation journey; and (4) internal team dependence on aspects such as organisational culture. The consolidated innovation expert participant data did not provide: (1) a link between transformational leadership and leader-member exchange; (2) a strong thematic link between transformational leadership and self-leadership; (3) links between self-leadership and leader-member exchange; (4) leader-member exchange and perceived organisational innovativeness; and (5) perceived organisational innovativeness and product innovation performance.

6.5 SYNTHESIS OF QUALITATIVE DATA

The strongest emerging themes from all three qualitative sets of data corresponded to a large degree. All three data sets brought to light the positive influence of transformation leadership - whether the effect on internal team members or the effect on external supplier teams. The significance of a cohered internal team with accompanying innovation processes, positive organisational culture, and innovation strategy was linked to an accurate grasp of end-consumer relevance. Harnessing open innovation via strategic relationships with the appropriate suppliers was indicated as pivotal by all three sets of data.

Figure 59 depicts the conceptual model with a consolidation of the main contributing themes from the qualitative data set.

Figure 59

The Conceptual Model, With Combined Supporting Data Specifically Provided by the Three Qualitative Data Sets of Participants

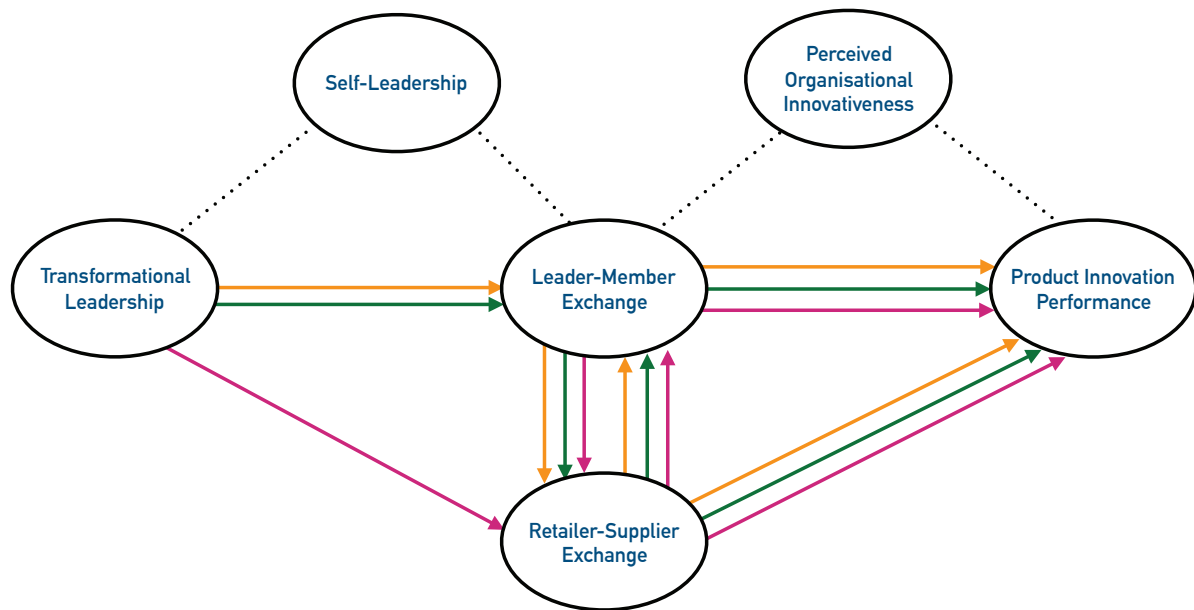
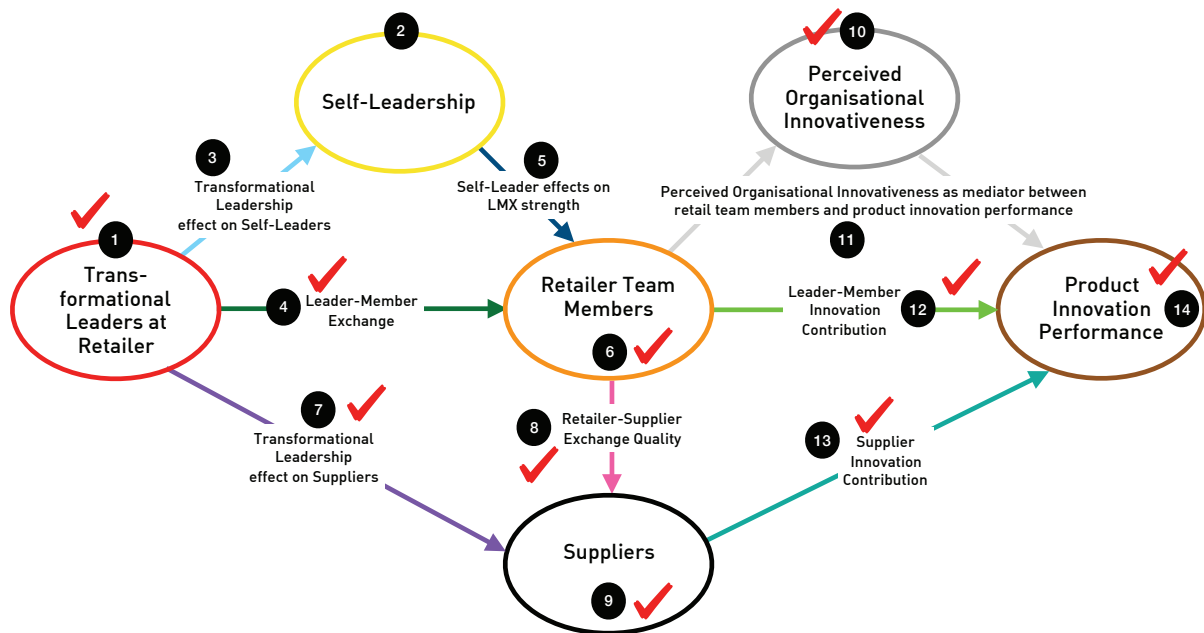


Figure 59 depicts the conceptual model with a consolidation of the main contributing themes from the qualitative data set. The amber lines indicate the contribution by the internal team subset, while the pink lines indicate the data contribution by the external supplier subset, and the final green lines are contributed to the innovation expert subset.

Figure 60 depicts the conceptual model with a consolidation of the main contributing themes from the qualitative data set with additional descriptions and checkmarks denoting data contribution.

Figure 60

The Conceptual Model, With Additional Descriptions and Checkmarks Representing Supportive Data From the Qualitative Data



In Figure 60, the checkmarks represent the degree to which the qualitative data informs the conceptual model through thematic themes. The absence of a checkmark represents a sparseness in qualitative data for this particular aspect of the conceptual model. The numbers correspond with the colour coding in each relational aspect of the conceptual model. The colour coding and numbering fulfilled an organising function in combined analyses represented in Figure 61 and Figure 62. As is evident in Figure 60, none of the three data sets provided significant data pertaining to how self-leadership plays a role in this particular conceptual model.

In Figure 61 the subthemes from all three data sets were colour coded and numbered in order to match the aspect of the conceptual model it best suited.

Figure 61

All Qualitative Themes and Subthemes, Colour Coded and Numbered According to Conceptual Model Correspondence, Sorted According to Qualitative Subset



In Figure 61, each subtheme from each qualitative subset was assigned a colour and number that connected the specific subtheme to an aspect from the conceptual model in Figure 60. The internal team participant thematic analyses are presented in the first column of Figure 61. The internal team themes inform the connection between transformational leadership, leader-member exchange, retailer-supplier exchange, perception of innovativeness and product innovation performance. Insufficient data emerged regarding the role of self-leadership in this conceptual model. The final subtheme in the first column (theme four) mentioned the effect of transactional leadership on team members, and is outlined in green to link this subtheme, in inverse, to transformational leadership. The external team participants appear in the middle column in Figure 61 along with informed aspects of transformational leadership, relationships and product innovation performance. The innovation expert participant themes are indicated in the column to the right in Figure 61, and provide data mostly to inform leadership and relationship effects on product innovation performance.

In Figure 62 the main themes from all three subsets were colour coded and numbered in order to match the aspect of the conceptual model it best suited, and subsequently grouped all similar subthemes in sets.

Figure 62

All Qualitative Subthemes, Colour Coded and Numbered According to Conceptual Model Correspondence, Sorted in Sets, According to Similarity



In Figure 62 the subthemes are grouped according to similarity and pertain to the main relationships in the conceptual model. The first column groups subthemes that relate to transformational leadership. The middle column in Figure 62 relates to internal team dynamics and connections to product innovation performance. The third column relates to external team suppliers, aspects pertaining to the relationship between suppliers and the retailer, and the supplier contribution to product innovation performance. The qualitative data inform the conceptual model with regard to the following four aspects:

1. A highly significant relationship exists between transformational leadership and internal leader-member exchange. A marginally significant relationship between internal leader-member exchange and product innovation performance is mediated by perceived organisational innovativeness.
2. Data confirmed the organisational aspects that dissuade internal team members to positively effect product innovation outcomes. The organisational aspects that are described as unoptimised include innovation strategy, structure, processes and overall organisational culture.
3. Data confirmed that the organisational aspects that both persuade and dissuade the formation of high-quality retailer-supplier exchange was present. These include both transactional and transformational approaches to the relational exchange with suppliers.
4. A highly significant relationship between transformational leadership and product innovation performance, mediated with high significance by external retailer-supplier exchange.

6.6 SUMMARY

The conceptual model was constructed based initially on quantitative data gathering, followed by qualitative data gathering to provide additional depth. Guided by the research questions, the final synthesis of both quantitative and qualitative findings are presented in Chapter 7. The qualitative findings provided data that informed several of the perplexing aspects in the quantitative findings.

CHAPTER 7: DISCUSSION

7.1 INTRODUCTION

In Chapter 3, the research argument and conceptual model proposed that leadership and relationships would have a positive effect on product innovation performance. The urgency to perform in terms of product innovation in a grocery retail environment requires appropriate leadership and is reliant on both strong internal leader-member relationships and retailer-supplier relationships. In Chapter 7, the quantitative and qualitative results are discussed on the basis of the conceptual model and research questions that were developed in Chapter 3. The quantitative findings were presented in Chapter 5, with the qualitative findings that followed in Chapter 6. The quantitative survey instrument design provided the foundation design of the conceptual model, and the findings were reported in line with statistical structural equation model methodology. The qualitative data were derived from semi-structured interviews comprising questions that pertained to the relationships between the constructs in the conceptual model. The transcribed interviews were coded and labelled in line with the theoretical underscore of the conceptual model and research questions.

7.2 BROAD RECONCILIATION OF QUANTITATIVE AND QUALITATIVE DATA

In line with Almalki (2016), Creswell and Plano Clark (2011) and Gelo et al. (2008), the research followed a triangulation where the quantitative and qualitative data was reconciled by meeting in the middle. Table 92 provided a tabular representation of each research question and how the specific datasets provided supportive data.

Table 92

Broad Reconciliation of Quantitative and Qualitative Data According to Research Questions

	Quantitative Data (internal team respondents)	Quantitative Data (external team respondents)	Qualitative Data (internal team participants)	Qualitative Data (external team participants)	Qualitative Data (innovation expert participants)
Research Question 1	+	-	+	-	+
Research Question 2	+	-	+	-	+
Research Question 3	++	-	++	-	++
Research Question 4	++	-	+	+	++
Research Question 5	+	-	+	-	+

	Quantitative Data (internal team respondents)	Quantitative Data (external team respondents)	Qualitative Data (internal team participants)	Qualitative Data (external team participants)	Qualitative Data (innovation expert participants)
Research Question 6	++	-	+	++	+
Research Question 7	+	-	+	++	++
Research Question 8	++	+	-	++	+
Research Question 9	+	-	+	+	+

Note. '+' denotes the provision of supportive data by this data subset, '++' denotes the provision of significantly-supportive data by this data subset, and '-' denotes the absence of data provided by this data subset regarding this particular research question.

The first two columns in Table 92 represents the quantitative datasets, namely the internal team and external team respondents. Since the external team respondents completed items exclusively relating to the purview of the retailer-supplier relationship, this dataset only contributed data to research question eight. Columns three and four respectively represent the qualitative internal team and external team datasets. The fifth column represents the breadth of the innovation expert participant contribution. In Section 7.3, the research questions are reconciled with the major findings from all datasets.

7.3 RECONCILIATION OF THE RESEARCH QUESTIONS

In the context of this research study, a transformational leader was proposed to spearhead the innovation journey with mediation by means of constructs such as self-leadership, internal leader-member exchange, perceived organisational innovativeness and external retailer-supplier exchange. The main research objective was to validate the conceptual model that connects transformational leadership to product innovation performance, mediated by self-leadership, internal leader-member exchange quality, external retailer-supplier exchange quality, and perceptions of organisational innovativeness. The main research objective and question generated several secondary objectives and questions. The research objectives were addressed through the research questions and answers were based on quantitative and qualitative results.

The degree to which leadership was required in the product innovation performance process was - based on this research - of great significance. While self-leadership was expected to feature more prominently in the findings as a mediator between transformational leadership and leader-member exchange, self-leadership did not conceptually contribute any new aspects to the existing literature.

Transformational leadership was significantly affirmed by both the quantitative and qualitative data to contribute to the product innovation performance process. The connection between relationships and product innovation performance was analysed on the basis of internal leader-member exchange relationships and external retailer-supplier exchange relationships. Then internal leader-member exchange relationships indicated an insubstantial association with product innovation performance, informed by both quantitative and qualitative data. The qualitative data provided the perspective that internal team members had an obstructed view of what constituted product innovation performance. In addition, internal team dynamics were described as fragmented with an organisational culture that was unaligned with collectively achieving product innovation performance. The quantitative external team supplier data set attested to non-ideal relational quality with internal team members, juxtaposed with a positive effect of transformational leaders on supplier team members. Transformational leadership and product innovation performance was expected in the initial phases of this research to be mediated by leader-member exchange. However, the significant mediation between transformational leadership and product innovation performance occurred through retailer-supplier exchange.

7.3.1 Research question 1: What is the relationship between transformational leadership, self-leadership and leader-member exchange?

In Chapter 5, the quantitative results confirmed a strong direct relationship between transformational leadership and internal leader-member exchange, with an insignificant mediation effect by means of self-leadership. In Chapter 6, the qualitative findings provided considerable data affirming the impactful role of a transformational leader and high-quality leader-member relationship on followers. Similar to the quantitative results, the qualitative data did not indicate a significant contribution of the effect of self-leadership to product innovation in this conceptual model. The literature confirms positive connections between the components of the triad: (1) transformational leadership and self-leadership (Andressen et al., 2012; Ugoani, 2021; Zhang et al., 2021); (2) transformational leadership and leader-member exchange (Hasib et al., 2020; Waglay, 2020); and (3) self-leadership and leader-member exchange (Kariuki, 2020; Sherman, 2002). While a strong direct relationship between transformational leadership and self-leadership was expected based on the literature, a speculative reason for the weak direct relationship between transformational leadership and self-leadership could be due to the direct relationship between transformational leadership and leader-member exchange being of greater strength.

7.3.2 Research question 2: To what degree does self-leadership mediate between transformational leadership and leader-member exchange?

Based on the combined quantitative and qualitative data, self-leadership did not indicate a mediating effect or significant contribution to the strength of a leader-member exchange relationship or the relationship between transformational leaders and internal team members. The findings of this study relating to transformational leadership and self-leadership contrasted with existing literature that positions self-leadership as a mediator between transformational leadership and positive organisational outcomes (Andressen et al., 2012; Browning, 2018). A speculative reason for the non-existing mediation between transformational leadership and leader-member exchange by means of self-leadership may be the comparatively more significant direct relationship between transformational leadership and leader-member exchange. A low-scoring direct relationship effect between self-leadership and leader-member exchange from the quantitative findings was supported, with insignificant qualitative data to link these two concepts. While the literature connecting self-leadership and leader-member exchange is sparse and vague, Kariuki (2020) confirmed the significance of self-leadership as a precursor to high leader-member exchange, specifically when high levels of self-efficacy were present.

7.3.3 Research question 3: What is the relationship between transformational leadership and leader-member exchange?

The quantitative results confirmed a strong direct relationship between transformational leadership and internal leader-member exchange. The qualitative innovation expert subset affirmed the positive effect on followers when leaders fulfilled a more transformational, as opposed to a transactional, leadership style. The findings from the qualitative internal team subset confirmed the presence of both transformational and transactional leaders, with the effect of the former described as positively impactful, while the latter was described as thwarting the ability of team members to perform through product innovation. The positive transformational leadership effects in the qualitative internal team subset was substantiated through leader descriptions that included charisma, the articulation of a compelling vision, inspirational motivation, high performance expectations, intellectual stimulation and individualised consideration. The descriptions of transformational leadership attributes were in line with established literature (Den Hartog et al., 1999; Nemanich & Keller, 2007; Palrecha et al., 2012; Podsakoff et al., 1990). Quantitative internal team subset accounts of individualised consideration by some leaders were juxtaposed with leaders that operated according to a primarily transactional directive leadership style. The follower effect of transformational leaders was described as remedial in the context of reversing any impairment caused by transactional leaders. According to

the literature, individualised consideration is a hallmark of transformational leadership (Cho & Dansereau, 2010; Ergeneli et al., 2007). The prevalence of transactional leaders was mentioned by internal team respondents with negative connotations about how the lack of transformational leadership thwarts the innovation culture. Impeding aspects relating to transactional leaders that were identified by the internal team subset included a negative organisational culture and a directive micromanaging style. Both the innovation expert subset, as well as literature, attest to the magnitude of the leader to establish a healthy organisational culture (Hueske et al., 2015; Rafailidis et al., 2017) that includes a fair approach to failure (Bouhali et al., 2015; Prange & Schlegelmilch, 2010) and ensures a positive and collaborative environment (Ishaq et al., 2021; Gumusluoglu & Ilsev, 2009; Pearce, 2007).

7.3.4 Research question 4: To what degree does leader-member exchange mediate between transformational leadership and product innovation performance?

The quantitative data provided some insight pertaining to the mediation effect between transformational leadership and product innovation performance, namely that the strong direct link between transformational leadership and leader-member exchange did not extend to include full mediation towards product innovation performance. The qualitative data supported the strong direct relationship effect between transformational leadership and leader-member exchange. However, the qualitative data provided potential insights that may have explained the lack of a direct relationship effect between leader-member exchange and product innovation performance, as well as the lack of full mediation between transformational leadership and product innovation performance by means of leader-member exchange as a mediator. The existing literature is supportive of the need for mediation between transformational leadership and innovation (Sheehan et al., 2020). The existing literature confirms the relevance of leader-member exchange in organisational settings as an ideal mediator between leadership and positive performance outcomes (Fenwick et al., 2019; Howell & Hall-Merenda, 1999; Molines et al., 2020; Waglay, 2020; Wang et al., 2005).

While the qualitative data supported a positive association between transformational leadership and internal team members, aspects relating to internal team dynamics pointed to weak internal relationships. The internal team fragmentation in terms of structure, processes, innovation strategy and overall organisational culture was confirmed as unoptimised by qualitative internal team and external team subsets. To speculate, the effect of a few transformational leaders on internal team members cannot compensate for high levels of team fragmentation, lack of succinct innovation processes, lack of innovation strategy, transactional directive leadership behaviours, and lack of organisational culture. The literature authoritatively supports the linkage between organisational culture and product innovation performance (Catmull, 2008; Kelley, 2001; Prange & Schlegelmilch,

2010; Tohidi & Jabbari, 2012; Vroom, 1995), appropriate processes and product innovation performance (Cooper, 2011; Crossan & Apaydin, 2010; Gopalakrishnan & Damanpour, 1994; Hauschildt & Kirchmann, 2001; Jelinek & Schoonhoven, 1990; Van der Ven et al., 2008) and innovation strategy and product innovation performance (Crossan & Apaydin, 2010; Khan et al., 2009; Kraft & Bausch, 2016; McLaughlin et al., 2002). The positive role of transformational leaders in achieving product innovation success through aligning all team players with strategy and vision is affirmed by both the existing literature (Hofstede, 2001) and the qualitative innovation expert subset. Transformational leaders translate the vision into a concrete strategy (Kotter, 1990; Paglis & Green, 2002; Sarros et al., 2011; Zaleznik, 1990), which corresponds with the literature that strategic framing enables innovation success (Midgley, 2009; Van de Ven et al., 2008; Wolcott & Lippitz, 2010). The qualitative internal and external subsets reported suboptimal states of retailer organisational culture, processes and innovation strategy, which provided context to the lack of full quantitative mediation between transformational leadership and product innovation performance by means of leader-member exchange.

In addition, all three qualitative data sets confirmed the general lack of accurate end-consumer grasp in internal retailer team members, which would speculatively inform the weak linkage in the quantitative findings between leader-member exchange and product innovation performance. A grasp of the end-consumer of a product is directly linked to the details pertaining to the product's innovation components and resulting features (Ren et al., 2015; Tsai, 2009). Product innovation performance is directly measured in how relevant a product is to an end-consumer (Makhitha & Khumalo, 2019; Midgley, 2010; Ren et al., 2015; Tsai, 2009). In the absence of an appropriate grasp of who will purchase and repeat purchase a product, the innovation is highly likely to fail on the details such as product taste attributes, price points, positioning and marketing.

7.3.5 Research question 5: To what extent does internal stakeholder perceived organisational innovativeness mediate a relationship between internal leader-member exchange quality and product innovation performance?

The qualitative data related transformational leadership to product innovation performance by means of: (1) vision and strategy; (2) organisational culture; and (3) organisational structure and processes. In the absence of quantitative findings that support full mediation between transformational leadership and product innovation performance by means of leader-member exchange, the mediation role of perceived innovativeness was reviewed. Perceived organisational innovativeness is a measure of willingness (Williams, 2013) and readiness (Rizki et al., 2019) to change, and a significant mediator for innovation performance (Birasnav et al., 2011; Lasrado & Kassem, 2020; Rizki et al., 2019). Despite

the path coefficients between internal leader-member exchange (LMX) and product innovation performance that reflected at a low value (0.58) with low statistical significance ($p=0.34$), the indirect mediation by means of perceived organisational innovativeness may have been relevant. The mediation effect reflected at lower relative values (LMX \rightarrow PORGI: 0.148, $p=0.02$; PORGI \rightarrow PIP: 0.184, $p=0.02$); however, there was completed mediation owing to both path coefficients reflecting similar strength in values. According to the quantitative findings, the mediation role of perceived organisational innovativeness was therefore considered at medium level in value and significance. Qualitative data indicated sparse inputs relating to perceived organisational innovativeness, or perceived organisational willingness to change. The qualitative internal team subset affirmed an adverse assessment of the willingness to change. The qualitative external supplier subset supported the notion that the internal team members had an inaccurate estimation of their own end-consumer. According to the quantitative innovation expert subset, an essential requirement for innovation performance was the grasp of the ideal end-consumer of a product. The match between a product's specificity and an end-consumer's need is reflected in the literature (Ren et al., 2015; Tsai, 2009). Therefore, a speculative reason for the weak contribution of qualitative data on perceived innovativeness was linked to the misunderstanding of 'who' - namely the end-consumer - the innovativeness should be geared towards.

7.3.6 Research question 6: What is the relationship between transformational leadership, leader-member exchange, retailer-supplier exchange and product innovation performance?

The mediation effects of leader-member exchange and retailer-supplier exchange were explored as potential indirect connectors between transformational leadership and product innovation performance. The quantitative data reported a negative mediation effect between internal leader-member exchange and external retailer-supplier exchange, since all path coefficients required positive and high values at high significance, which was not the case with leader-member exchange and retailer-supplier exchange. If the path coefficient between leader-member exchange and retailer-supplier exchange was at a high value, then a potential case could be established of significant full mediation by means of two variables, which was not the case in this instance.

All three qualitative subsets confirmed the merit of deliberate and strategic supplier relationships to enable performance in product innovation. According to both the innovation expert and external supplier team data set, strategic supplier relationships require: (1) a time investment; (2) responsible risk management; and (3) trust development.

The qualitative internal team subset acknowledged the lack of systems in place for suppliers to successfully 'push' or initiate innovation. The lack of formal processes for suppliers to present their product innovation was affirmed by the qualitative external supplier subset. The qualitative innovation expert subset accentuated the considerable benefit of knowledge management to achieve innovation, which was in contrast with the external supplier subset confirmation that knowledge exchange between supplier and retailer tends to be scant. Open innovation between suppliers and retailers is advantageous in the quest to achieve sustainable innovation performance (De Clercq et al., 2011). The exchange of knowledge allows the collective repository of knowledge to enable fine-tuning during innovation processes, in order to develop and accomplish remarkable product innovation (Hughes & Perrons, 2011; Vanpoucke et al., 2014).

A transactional relationship style between retailers and their suppliers was reported to be pervasive in the grocery retail industry by both innovation experts and external supplier teams, which is confirmed by the existing literature (Kumar, 2005; Philipsen & Kolind, 2012; Sjoerdsma & Van Weele, 2015). The external supplier subset described commercial buyers as maintaining asymmetry in terms of power, resulting in suppliers being required to manage risks independently.

It can be speculated that the quantitative findings of an insignificant relationship between the concepts of leader-member exchange and retailer-supplier exchange may be the result of knowledge mismanagement, insufficient processes, power asymmetry and an indirect result of fragmentation among internal departments.

7.3.7 Research question 7: To what extent does leader-member exchange act as a mediator between transformational leadership and retailer-supplier exchange?

Similar to the quantitative results, the qualitative data indicated a significant relationship between transformational leadership and leader-member exchange. According to Fenwick et al. (2019), leader-member exchange was identified as an ideal mediator between transformational leadership and organisational performance outcomes. Neither the quantitative nor qualitative data supported mediation from transformational leadership to product innovation performance by means of leader-member exchange and retailer-supplier exchange.

The transactional nature of the industry may contribute to the quantitative structural equation model's relationship between internal leader-member exchange and external retailer-supplier exchange relationships. The structural equation model contributes a negative indirect relationship between transformational leadership and retailer-supplier exchange when mediated by leader-member exchange. However, the structural equation model contributes a statistically significant high

path coefficient between transformational leadership and external retailer-supplier exchange (0.350). While a significant and high path coefficient between internal leader-member exchange and external retailer-supplier exchange was expected from the research questions, the quantitative data did not support any mediation between transformational leadership and external retailer-supplier exchange by means of internal leader-member exchange.

The retailer-supplier relationships involve the balancing of each party's power or lack thereof, as is evident in the literature (Konuk, 2019; Nandonde, 2019), and in qualitative subsets of innovation experts and external supplier teams. Retailer-supplier relationships are subject to a transactional cycle, which permeates from an end-consumer that consumes and replenishes with immediacy and therefore a short consumption cycle (Wagner & Bode, 2014). The insatiable transactional end-consumer behaviour (Battezzati & Magnani, 2000) is contingent on a series of success factors that must be accomplished by suppliers and retailers. In cases where the retailer or supplier is unable to meet consumer needs, the needs are often met with transactional repercussions, as is evident from literature (Ray et al., 2016) and external supplier team and innovation expert quantitative data sets.

7.3.8 Research question 8: What is the relationship between transformational leadership and retailer-supplier exchange?

In the quantitative findings, the significant direct relationship between transformational leadership and retailer-supplier exchange was bolstered by the prolific qualitative external supplier subset data, directly attributing supplier organisation success to the relationship with a senior retailer leader that is transformational in nature. The significance of the qualitative subset data endorsement of transformational leaders was in the context of regular adverse experiences with other retailer team members that were transactional, with sparse innovation processes, insufficient knowledge exchange and lack of a coherent innovation strategy. There is an abundance of existing literature describing the value of strong innovation leadership with positive effects on the whole innovation ecosystem (Adner, 2006; Birasnav et al., 2011; Hughes & Perrons, 2011; Roscoe et al., 2016; Wu & Wu, 2015). The literature that connects transformational leadership with supplier team members remain scant.

7.3.9 Research question 9: To what degree do transformational leaders influence product innovation performance?

Transformational leadership was linked to product innovation performance by means of a full and significant indirect mediation effect by means of external retailer-supplier exchange. The path coefficient between transformational leadership and retailer-supplier exchange reflected at a value of 0.350 ($p < 0.01$) and the path coefficient between retailer-supplier exchange and product innovation

performance reflected at a value of 0.310 ($p < 0.01$), rendering this full and significant mediation. The full mediation by retailer-supplier exchange between transformational leadership and product innovation performance was the most significant of all the quantitative findings. Transformational leaders' behaviours had a great impact on suppliers, according to the external supplier team quantitative data set. Specifically, transformational leaders fulfilled an essential role in fast-tracking innovation. Inspirational motivation and individual consideration were the two most impactful dimensions of transformational leaders, according to the external supplier team qualitative data set. All three qualitative data sets confirmed the magnitude of suppliers in the product innovation performance process, in particular the value in suppliers taking the lead in innovation initiatives. The time and complexity involved in forming strategic supplier relationships were stressed by the qualitative data. A noteworthy contribution from both the quantitative and qualitative data confirmed that high-quality relationships across the retailer-supplier spectrum enabled greater collaboration towards positive innovation outcomes.

7.4 SUMMARY

In Chapter 7, the quantitative and qualitative findings were synthesised and reported on along each research question. Chapter 8 included a consolidation of the research contribution, contribution to practice and policy, overview of limitations, future research recommendations and the final conclusion.

CHAPTER 8: CONCLUSIONS AND RECOMMENDATIONS

8.1 RESEARCH CONTRIBUTION

A significant contribution extracted from the qualitative data was that high-quality relationships across the retailer-supplier spectrum enabled greater collaboration towards positive innovation outcomes. The prominence of establishing appropriate and strategic supplier relationships was supported by both quantitative and qualitative data. The value of open innovation was evident in suppliers co-creating with retailers by adopting an approach of joint custodianship to optimally satisfy the retailer's end-consumers. The gravity of an accurate end-consumer understanding by the whole innovation ecosystem - from all internal team members to external supplier team members - was also supported in the findings and linked to achieving product innovation performance. In addition, the qualitative data affirmed the significance of cultivating a strong innovation ecosystem by means of processes, structures and culture to enable the optimal flow of information and collaboration towards joint innovation goals.

The most significant contribution of this research was no doubt the positive association found between transformational leadership and product innovation performance by means of retailer-supplier exchange as a mediator. Retailer-supplier exchange as a mediator was affirmed by the structural equation model indicating full, significant mediation at high statistical levels of reliability. The qualitative data supported the relationship between transformational leadership and product innovation performance with retailer-supplier exchange as the mediator at significant levels of trustworthiness. The positive effect of transformational leaders on suppliers was reported alongside accounts of adversely affecting directive or transactional leadership styles on the same suppliers. The presence of both leadership styles demonstrated the transformative effect of transformational leaders not to get thwarted if contrasting leadership styles were also present. Suppliers indicated the presence of pervasive transactional directive leadership and the adverse effect on supplier organisations; however, the positive impact of transformational leaders on the supplier organisation prevailed. While strategic suppliers were closely linked to the retailer, supplier organisations were governed by their own innovation mechanics, including organisational culture, processes, structure and drive to succeed. The independence of suppliers probably explained why the positive direct relationship effect between transformational leadership and retailer-supplier exchange could convert into a mediation relationship towards product innovation performance. Suppliers were not engrossed with this particular retailer's shortcomings in terms of innovation mechanics. The adaptation of the leader-member exchange measurement instrument to achieve the retailer-supplier exchange

measurement instrument indicates potential. Based on the findings of this research, the application of the retailer-supplier exchange measurement instrument in order to measure relational quality between retailers and their suppliers could prove to be a useful future survey mechanism.

The positive effect of transformational leadership on internal team members was affirmed by both quantitative and qualitative data sets. Internal team members also reported the presence of transactional directive leadership; and, in line with the effect of both leadership styles on suppliers, internal team members remained positively influenced by transformational leaders and the effect of transformational leaders was not thwarted by the consequences of directive transactional leadership. Despite the findings of this research study that confirmed full mediation from transformational leaders through retailer-supplier exchange to product innovation performance, mediation between transformational leadership and product innovation performance by means of leader-member exchange did not occur.

While the findings supported a strong direct relationship effect between transformational leadership and leader-member exchange, the lack of mediation by leader-member exchange is in direct contrast with the literature that demonstrates the valuable mediation effect fulfilled by leader-member exchange. The literature supports a positive association between leader-member exchange and high-performance outcomes (Ansari et al., 2007; Henderson et al., 2009; Mahsud et al., 2010). Both the quantitative and qualitative data from this research study failed to confirm a positive relationship between leader-member exchange and product innovation performance or internal team members and product innovation performance. Three aspects that emerged from the qualitative data that may explain the insignificant relationship from the overall findings between: (a) leader-member exchange and retailer-supplier exchange; and (b) leader-member exchange and product innovation performance are:

- an inaccurate understanding of the product end-consumer base;
- the unoptimised innovation mechanics that lead to an unideal innovation ecosystem; and
- a lack of support to suppliers to enable co-creation towards product innovation performance.

The accurate understanding of the ideal end-consumer of a product enables the alignment of all aspects of innovation, which was repeatedly affirmed by the qualitative data set in addition to confirmation from the existing literature (Cadwallader et al., 2010; Hennig-Thurau et al., 2006; Midgley, 2010; Ren et al., 2015). The ability to understand who will consume a product and what purpose this product will fulfil for this end-user is directly linked to sustained product innovation performance. The qualitative data from this research study supported the lack of an accurate end-consumer grasp by internal retailer teams. The supposition was made that the weak relationship

between leader-member exchange and internal team members and product innovation performance was due to an inaccurate grasp of the end-consumer's requirements.

The qualitative data contributed to the merits of an established innovation mechanics to product innovation performance, as is also affirmed in the literature (Alegre et al., 2006; Edison et al., 2013; Samad, 2012). The innovation mechanics includes innovation strategy, processes, structure and culture (Alegre et al., 2006; Edison et al., 2013; Samad, 2012). The qualitative data also revealed the shortcomings of innovation mechanics found in this research study's organisation. Both internal team and external team subsets contributed a perspective of unoptimised systems for collaboration with suppliers, lack of cohesion among internal team members, and general lack of innovation strategy. In cases where there were unoptimised processes, structure, organisational culture and a lack of innovation strategy, the positive degree to which transformational leaders could bridge the product innovation process by providing direction, situational optimisation and processes emerged positively from the qualitative data set. Transformational leaders could clear bottlenecks and fast-track processes beyond red tape to ensure that product innovation targets were met. However, the lack of essential innovation mechanics thwarted internal team members in their efforts to provide other internal team members and external supplier team members with the necessary scaffolding to collaborate on product innovation performance.

The quantitative findings indicated a negative relationship between leader-member exchange and retailer-supplier exchange. The disconnect between internal team members and external supplier team members was affirmed by both quantitative and qualitative data sets. The negative relationship manifested in insufficient support provided by internal team members to external supplier team members. The likelihood of this reported lack of support may have been the result of pervasive traditional commercial buyer culture. The status quo in terms of commercial buyer power imbalance involved a transactional directive approach in dealings with suppliers, no matter how strategically significant and useful these suppliers might have been. The lack of support may also simply have been the by-product of internal team fragmentation and unoptimised innovation mechanics.

The research approach of essentially running three concurrent streams of data gathering included: (1) quantitative structural equation modelling to determine the relationships between six constructs; (2) qualitative semi-structured interviews conducted with team members that held direct knowledge of the constructs in the quantitative data gathering; and (3) independent qualitative inputs through semi-structured interviews with innovation experts that all held in-depth knowledge of the industry. The qualitative internal and external team subsets of data provided significant insights that shed light on

many of the quantitative findings, whereas the qualitative innovation expert subset informed aspects that were relevant beyond the sample set of this research study.

Statistical structural equation modelling enabled the incorporation and comprehension of a myriad of relationships amid complexity (Hair et al., 2019), and was an essential and indispensable analysis approach for the constructs in this research study. Structural equation modelling was subdivided into two respective approaches: (1) partial least squares (PLS-SEM); and (2) covariance-based (CB-SEM) (Kline, 2005; Hair et al., 2014). Initially, PLS-SEM deployed many of the same measurement confirmation metrics as CB-SEM. However, recently PLS-SEM methodology has become more established, with a different set of criteria and terminology (Hair et al., 2020). This research study made a contribution to the utilisation of a primary PLS-SEM process, with a CB-SEM support process as a secondary confirmation. The overlay of qualitative insights supported the findings by providing several layers of insights - namely from internal team members, external supplier team members and independent innovation experts.

8.2 CONTRIBUTION TO PRACTICE AND POLICY

The value for retailers to strategically manage their supply base involved the organising of supplier types, and degrees to which stronger bonds should be formed with some of these suppliers. The advantages of utilising a supplier as a valuable resource in the product innovation process was confirmed by this research study. Building relationships with suppliers may often enable the product innovation performance journey to continue even if organisational aspects like culture, processes and strategy are lacking. Suppliers require support from retailers in order to appropriately 'push' innovation and provide the retailer with a competitive edge. The support required by suppliers involves: (1) opportunities for knowledge exchange, in particular to access ideal end-consumer data and the retailer's innovation strategy; (2) the processes or systems for the submission of product innovations, with the availability for interaction to fine-tune from inception to final launch; and (3) risk management guidelines, especially where large resource investments are required to achieve certain product innovations. The adaptation of the retailer-supplier exchange measurement instrument as a reliable way to measure the relationship quality between retailers and their suppliers, is a new contribution, and could be promising for future research.

While luminary and transformational leaders play an essential role in smoothing the innovation pathway, it is unsustainable for large organisations to depend on individual leaders to do the brokering owing to unoptimised fundamentals to product innovation performance. Relationships and leadership cannot indefinitely compensate when innovation mechanics are in disarray. The creation of an ideal

open innovation ecosystem that involves many stakeholders requires innovation leadership to ensure the innovation mechanics are in place. The clarity of innovation strategy assists in aligning all stakeholders with a tangible innovation blueprint. A clear innovation strategy also supersedes fragmented interdepartmental conflict in maintaining the deliverables of individual departments or roles, and aligns multidisciplinary teams to collaborate towards collective innovation objectives. The team member understanding of the formal and informal processes that enable product innovation to commence and conclude provides essential practical scaffolding to assist the collaboration across departments and retail supplier organisations. The organisational architecture or structures that support the processes with clear accountability further enables greater innovation collaboration. The organisational culture that prevails is co-created over time; however, the leadership provides the inputs that germinate to contribute to a healthy culture for product innovation collaboration. For example, the approach to failure requires specific management to ensure team members approach innovation with the appropriate level of caution or experimentation. In a similar vein, the celebration of innovation success enables a culture of pride in the brand. The adverse effect of transactional commercial buyers is supported by the qualitative data, and confirmed by existing literature (Hingley et al., 2015; Sjoerdsma & Van Weele, 2015; Sutton-Brady et al., 2015; Tsai & Hsu, 2014). The recommendation would be to address the transactional nature of buyers, in order to form stronger collaborative relationships with internal team members, as well as external supplier team members.

The qualitative data contributed the insight that internal team members maintain an adverse estimation of own innovativeness. An incessant comparison was drawn with the successful product innovation achievements of other grocery retailers, while disregarding the difference in product end-consumers for the grocery retailers. Product innovation performance in the context of this research study was defined in terms of end-consumer relevance. The failure to be relevant to end-consumers will translate into poorly performing product innovations. Accurate comprehension of the end-consumer will enable innovation strategy to be established and processes to be aligned to optimise the human capital needed to effectuate the innovation. The knowledge regarding end-consumer segments needs to be understood and clearly communicated to the innovation ecosystem of collaborators. When products are relevant to end-consumers, repeated consumption occurs, which in turn ensures sustainable performance. In addition to a grasp of end-consumer typology, it is necessary to balance the time horizon of end-consumer relevance in products that are required currently versus how future end-consumer needs will shape future product innovations. Grocery retailers operate in an environment that is predicated by immediacy; however, futureproofing occurs when there is an anticipation and concomitant innovation strategy to support what end-consumers will require in the future.

Transformational leaders fulfil an essential role in influencing both internal and external team members. In cases where strategy, processes and structure are lacking, transformational leaders can play a critical role in ensuring that innovation goals are achieved. However, the combination of transformational leaders, optimised innovation mechanics, strategic planning with regard to the supplier base, and the development of high-quality exchange relationships with suppliers will enable organisations to thrive in product innovation performance.

8.3 LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

In this study, the quantitative sample size was relatively small (Leedy & Ormrod, 2010), whereas the qualitative sample size was appropriate (Bauman et al., 2012). The recommendation would be to develop shorter versions of current questionnaires and employ a larger quantitative data set in order to qualify for both a PLS-SEM and CB-SEM full quantitative structural equation model confirmation and, therefore a more robust confirmation. This research study was primarily conducted with one grocery retailer as the core sample set. The qualitative external team members and innovation experts balanced the data gleaned from the core sample set and provided an independent industry perspective to the data set that extended beyond this particular grocery retailer. Despite the presence of aspects that enabled a wider industry extrapolation, the limitation of this study is that the primary quantitative data remains a snapshot of a time period at the particular grocery retailer that may be fraught with organisational structure and strategic flaws. During the time of the research, it became apparent that the organisation at which the core research was conducted was fragmented in an organisational sense and as a result in organisational disarray due to consolidating key service providers and restructuring internal teams. The recommendation would be to repeat components of the research as part of a future research endeavour. Further recommendations would be to conduct the same research in other grocery retailer ecosystems.

While the literature confirms the advantages of the development of retailer-supplier relationships, the quantitative findings of this research provided a negative relationship between leader-member exchange and retailer-supplier exchange. The qualitative data provided insights including organisational fragmentation, lack of innovation strategy, unoptimised organisational culture, and absence of processes to submit innovation. It is unclear whether poor relationships between internal team members and external supplier team members were an inadvertent casualty of general organisational disarray or whether transactional commercial buyer culture contributed to the negative quantitative link between internal and external teams. The recommendation would be to study commercial buyer culture and elements causing organisational disarray in isolation, to enable a better understanding of the negative relational retailer-supplier aspects. The construct of leader-member

exchange in the context of the conceptual model in this research study also failed to provide full mediation between transformational leadership and product innovation performance. While full mediation was expected considering existing literature that positions leader-member exchange as a strong mediator for leadership and innovation performance (Kang & Stewart, 2007; Mascareño et al., 2020), the failure of full mediation in this research study further supports the organisational disarray. A recommendation for future studies would be to ascertain levels of organisational culture in order to provide greater quantitative insights.

Transformational leadership is confirmed to have a positive effect on suppliers in completing the product innovation process and achieving positive outcomes. The full mediation between transformational leaders and product innovation performance by means of retailer-supplier exchange was compared to the lack of mediation between transformational leadership and product innovation performance by means of leader-member exchange. The qualitative data established unoptimised organisational culture, processes, structure and strategy from an internal team perspective. The organisational culture, processes, structure and strategy at external supplier organisations was not included in the purview of this research study; however, a recommendation for future studies would be to ascertain the role of organisational culture and systems and the degree to which it may explain the lack of mediation between transformational leadership and product innovation performance by means of leader-member exchange.

Self-leadership was included in the research owing to seminal literature citing the contribution of self-leadership in innovation (Gomes et al., 2015; Stashevsky et al., 2006) and the established links between transformational leadership and self-leadership (Zhang et al., 2021). Neither the quantitative nor qualitative findings indicated a contribution to the conceptual model and proposition. In Chapter 5, the abbreviated self-leadership questionnaire (ASLQ) indicated several areas of concern with a factorial item pertaining to natural reward strategies. The ASLQ is indicated as reliable for a general sense of self-leadership behaviours (Şahin, 2015); however, the recommendation for future studies is to consider the lengthier revised self-leadership questionnaire (RSLQ) to potentially add greater signal.

Product innovation performance was measured with a dedicated quantitative instrument, however the qualitative questions pertaining to the evaluation of innovation performance with products were limited. Despite the limitation in formal questions relating to product innovation performance, the participants provided significant assessment regarding product innovation performance. Future studies may consider additional questions regarding product innovation performance. In addition, future studies may consider the inclusion of end-consumer data pertaining to consumer-evaluated product innovation success.

The generalisability of constructs to include a South African sample was regarded a potential limitation. The paradigms that underscore Western, Northern, Eastern and African behaviour are not homogenous, and Anglo-American management toolkits cannot be generically grafted onto other cultures (April & Peters, 2011). According to Alves et al. (2006), the fit between East Asian and African developing countries do not coincide entirely with Western models owing to different approaches regarding interpersonal relationships, loyalty and authority. African leadership remains under-researched, where instead of appropriating Western-based management, leadership and organisational framework assumptions specific research should rather be encouraged (Lituchy et al., 2014). The formal literature on contemporary South African leader characteristics is scarce (Lee, 2011). The South African heritage involves a distinct combination of humanity and leadership (Nussbaum et al., 2010). The research conducted by Project GLOBE entailed the study of 61 countries and the links to leadership, according to the Project GLOBE, are that “each culture develops its own culturally implicit theory of leadership” (Ergeneli et al., 2007, p. 704). The Project GLOBE study found noteworthy evidence that “although there are global commonalities, South African participants had different leadership perceptions to other nationalities and between black and white managers” (Lee, 2011, p. 214). Transformational leadership is viewed as universally effective across the spectrum of cultural contexts (Den Hartog et al., 2010; Palrecha et al., 2012). Transformational leadership is considered appropriate for a South African leadership context (Crede et al., 2019; Dlamini et al., 2017; Engelbrecht et al., 2005; Mokgolo et al., 2012; Ristow et al., 1999; Schlechter & Strauss, 2008). Contemporary leadership in South Africa, especially among a younger cohort, registered a “high affinity for the more strategic traits of forward-looking and inspiring leadership” (Lee, 2011, p. 226), which is at the core of transformational leadership. According to Alves et al. (2006), transformational leadership and self-leadership can be applied in a variety of styles and cultures, for example, where high power distance exists, transformational leadership and self-leadership will be more directive than participative. The recommendation for future studies to ascertain cultural suitability of leader-member exchange in a South African context.

8.4 CONCLUSION

This research study explored the role of leadership and relationships in securing a sustainable competitive advantage in product innovation performance in a frenetic grocery retail setting. Grocery retail requires an immediacy in end-consumer need satisfaction, with end-consumers operating largely in a transactional manner. The initial inquiry pertained to the role of leaders - through mechanisms of empowerment and participation espoused by transformational leadership - to create an innovation ecosystem that enabled the best product innovations to emerge. Quality relational exchanges between leaders and internal team members and internal and external team members

were anticipated to enable ideal knowledge exchange, collaborative innovation iterations, the development of commercial-relational trust, and ultimately product innovation performance.

The degree to which transformational leadership and relationships could compensate for innovation strategy, process and structural shortcomings was confirmed by this research study. The cohesive role fulfilled by leaders that embodied transformational attributes: (1) inspired internal and external team members to perform in the absence of a fully functioning innovation ecosystem; (2) supported the navigation of product innovation projects from inception to completion despite the shortcomings in terms of structure, process and strategy; and (3) played a remedial role in neutralising the adverse effects of transactional leadership behaviours. The significance of innovation strategy and processes, organisational structure, and overall organisational culture is considered critical to product innovation performance and there are however limitations to the degree to which leadership and relationships can bootstrap a shortfall.

The adaptation of the retailer-supplier exchange measurement instrument as a reliable way to measure the relationship quality between retailers and their suppliers, is a new contribution, and could be promising for future research.

One of the new academic contributions included the valuable role of leadership investments towards strategic supplier partners in the product innovation journey, despite the presence of internal organisational disarray, unoptimised innovation mechanics, minimal transactional commercial buyer culture, and lack of processes for suppliers to push innovation. This research study confirms in the value of (a) selecting appropriate supplier partners that show high levels of commitment to open innovation and (b) greater supplier development in the quest to achieve product innovation performance. The findings of this study indicated that the cultivation of high-quality retailer-supplier exchange relationships is the greatest predictor of product innovation performance. These findings substantiate the need for organisations to apply greater support for suppliers in creating and communicating push innovation processes, providing knowledge exchange opportunities, co-managing risk, and sharing of innovation strategies.

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APPENDICES

Appendix A: Quantitative research instruments for internal team respondents

1. Transformational Leadership Questionnaire (Podsakoff et al, 1990)

Questionnaire instructions: Below is a set of statements that may or may not describe your direct leader's behaviour at work. Using the scale below, please indicate the extent to which you agree (or disagree) that each statement is descriptive of your direct leader.

1	2	3	4	5	6	7	
<i>Strongly disagree</i>	<i>Disagree</i>	<i>Somewhat Disagree</i>	<i>Neutral</i>	<i>Somewhat Agree</i>	<i>Agree</i>	<i>Strongly Agree</i>	
	1	2	3	4	5	6	7
1. Is always seeking new opportunities for the unit / department / organisation							
2. Paints an interesting picture of the future for our group							
3. Has a clear understanding of where we are going							
4. Inspires others with his/her plans for the future							
5. Is able to get others committed to his/her dream of the future							
6. Leads by "doing" rather than simply "telling"							
7. Provides a good model to follow							
8. Leads by example							
9. Fosters collaboration among work groups							
10. Encourages employees to be "team players"							
11. Gets the group to work together for the same goal							
12. Develops a team attitude and spirit among his/her employees							
13. Shows that he/she expects a lot from us							
14. Insists on only the best performance							
15. Will not settle for second best							
16. Acts without considering my feelings							
17. Shows respect for my personal feelings							
18. Behaves in a manner that is thoughtful of my personal needs							
19. Treats me without considering my personal feelings							
20. Has provided me with new ways of looking at things which used to puzzle me							
21. Has ideas that have forced me to rethink some of my own ideas that I have never questioned before							
22. Has stimulated me to think about old problems in new ways							

2. Abbreviated Self-Leadership Questionnaire (ASLQ; Houghton, Dawley and DiLiello, 2012)

Questionnaire instructions: Read each of the following items carefully and try to decide how true the statement is in describing you.

1	2	3	4	5
<i>Not at all accurate</i>	<i>Somewhat accurate</i>	<i>Neither accurate nor inaccurate</i>	<i>Mostly accurate</i>	<i>Completely accurate</i>

	1	2	3	4	5
1. I establish specific goals for my own performance.					
2. I make a point to keep track of how well I'm doing at work.					
3. I work toward specific goals I have set for myself.					
4. I visualise myself successfully performing a task before I do it.					
5. Sometimes I picture in my mind a successful performance before I actually do a task.					
6. When I have successfully completed a task, I often reward myself with something I like.					
7. Sometimes I talk to myself (out loud or in my head) to work through difficult situations.					
8. I try to mentally evaluate the accuracy of my own beliefs about situations I am having problems with.					
9. I think about my own beliefs and assumptions whenever I encounter a difficult situation.					

3. Leader-member exchange (LMX-7; Graen & Uhl-bien, 1995)

Questionnaire instructions: This questionnaire contains items that ask you to describe your relationship with your direct leader. For each of the items, indicate the degree to which you think the item is true for you by selecting one of the responses that appear below the item.

1	2	3	4	5
<i>Not at all accurate</i>	<i>Somewhat accurate</i>	<i>Neither accurate nor inaccurate</i>	<i>Mostly accurate</i>	<i>Completely accurate</i>

	1	2	3	4	5
1) Do you know where you stand with your team leader and do you usually know how satisfied your leader is with what you do? (1) Rarely, (2) Occasionally, (3) Sometimes, (4) Fairly often, (5) Very often.					
2) How well does your team leader understand your job problems and needs? (1) Not a bit, (2) A little, (3) A fair amount, (4) Quite a bit, (5) A great deal.					
3) How well does your team leader recognise your potential? (1) Not at all, (2) A little, (3) Moderately, (4) Mostly, (5) Fully.					
4) Regardless of how much formal authority your team leader has built into his or her position, what are the chances that your leader would use his or her power to help you solve problems in your work? (1) None, (2) Small, (3) Moderate, (4) High, (5) Very high.					
5) Again, regardless of the amount of formal authority your team leader has, what are the chances that he or she would "bail you out" at his or her expense? (1) None, (2) Small, (3) Moderate, (4) High, (5) Very high.					
6) I have enough confidence in my team leader that I would defend and justify his or her decision if he or she were not present to do so. (1) Strongly disagree, (2) Disagree, (3) Neutral, (4) Agree, (5) Strongly agree.					
7) How would you characterise your working relationship with your team leader? (1) Extremely ineffective, (2) Worse than average, (3) Average, (4) Better than average, (5) Extremely effective.					

4. Retailer-Supplier Exchange (RSX; adapted from LMX-7 developed by Graen & Uhl-bien, 1995)

Questionnaire instructions: This questionnaire contains items that ask you to describe your relationship with your primary suppliers. For each of the items, indicate the degree to which you think the item is true for you by selecting one of the responses that appear below the item.

	1	2	3	4	5
1. Do suppliers know where you stand with (the retailer name) and how satisfied (the company name) is with what they do? (1) Rarely, (2) Occasionally, (3) Sometimes, (4) Fairly often, (5) Very often.					
2. How well does (the retailer name) understand supplier problems and needs? (1) Not a bit, (2) A little, (3) A fair amount, (4) Quite a bit, (5) A great deal.					
3. How well does (the retailer name) recognise supplier potential? (1) Not at all, (2) A little, (3) Moderately, (4) Mostly, (5) Fully.					
4. What are the chances that (the retailer name)'s team members would use their power or know-how to help a supplier solve a business problem? (1) None, (2) Small, (3) Moderate, (4) High, (5) Very high.					
5. What are the chances that (the retailer name) would "bail out"/support/defend a supplier? (1) None, (2) Small, (3) Moderate, (4) High, (5) Very high.					
6. Suppliers have sufficient confidence in (the retailer name) that suppliers would defend and justify (the c retailer name), especially when (the retailer name) is not present? 1) Strongly disagree, (2) Disagree, (3) Neutral, (4) Agree, (5) Strongly agree.					
7. How would your suppliers characterise their working relationship with (the retailer name)? (1) Extremely ineffective, (2) Worse than average, (3) Average, (4) Better than average, (5) Extremely effective.					

5. Perceived Organisational Innovativeness Scale (PORGI; Hurt & Teigen, 1977)

Questionnaire instructions: Read each of the following items carefully and try to decide how true the statement is in describing your organisation (internal stakeholders) or organisation that you supply (external stakeholder).

1	2	3	4	5			
<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neither agree nor disagree</i>	<i>Agree</i>	<i>Strongly agree</i>			
			1	2	3	4	5
1. My unit is cautious about accepting new ideas							
2. My unit leads, ahead of all other companies in the industry							
3. My unit is suspicious of new ways of thinking							
4. My unit is very inventive							
5. My unit is often consulted by other companies for advice and information							
6. My unit is sceptical of new ideas							
7. My unit is creative in its method of operation							
8. My unit is usually one of the last of its kind to change to a new method of operation							
9. My unit is considered one of the leaders in the industry							
10. My unit is receptive to new ideas							
11. My unit is challenged by new ideas							
12. My unit follows the belief that "the old way of doing things is the best"							
13. My unit is very original in operational procedures							
14. My unit do not respond quickly enough to necessary changes							
15. My unit is reluctant to adopt new ways of doing things until other companies have used them successfully							
16. My unit frequently initiates new methods of operations							
17. My unit is slow to change							
18. My unit is rarely involved in the decision-making processes							
19. Good communication is maintained between supervisors and employees in my unit							
20. My unit is influential with other industry players							
21. My unit seeks out new ways to do things							
22. My unit is rarely trusting new ideas and ways of functioning							
23. My unit never satisfactorily explains to employees the reasons for procedural changes							
24. My unit frequently tries out new ideas							
25. My unit is willing and ready to accept outside help when necessary							

Appendix B: Quantitative research instruments for external team supplier respondents

1. Retailer-Supplier Exchange (adapted from LMX-7 developed by Graen & Uhl-bien, 1995)

Questionnaire instructions: This questionnaire contains items that ask you to describe your relationship with your primary retailer-customer. For each of the items, indicate the degree to which you think the item is true for you by selecting one of the responses that appear below the item.

	1	2	3	4	5
1. Do you know where you stand with the buyer(s) and developer(s) you work with, and do you usually know how satisfied they are with what you do? (1) Rarely, (2) Occasionally, (3) Sometimes, (4) Fairly often, (5) Very often.					
2. How well does the buyer(s) and developer(s) understand your business problems and needs? (1) Not a bit, (2) A little, (3) A fair amount, (4) Quite a bit, (5) A great deal.					
3. How well does the buyer(s) and developer(s) recognise your business' potential? (1) Not at all, (2) A little, (3) Moderately, (4) Mostly, (5) Fully.					
4. Regardless of how much formal authority the buyer/developer has built into his or her position, what are the chances that he/she would use his or her influence to help you solve problems in your work? (1) None, (2) Small, (3) Moderate, (4) High, (5) Very high.					
5. Again, regardless of the amount of formal authority the buyer/developer has, what are the chances that he or she would support and/or defend you even if at his or her expense? (1) None, (2) Small, (3) Moderate, (4) High, (5) Very high.					
6. I have enough confidence in the buyer/developer that I would defend and justify his or her decision if he or she were not present to do so. 1) Strongly disagree, (2) Disagree, (3) Neutral, (4) Agree, (5) Strongly agree.					
7. How would you characterise your working relationship with your buyer/developer? (1) Extremely ineffective, (2) Worse than average, (3) Average, (4) Better than average, (5) Extremely effective.					

Appendix C: Interview question development

Appendix C indicates the interview question development, while Appendix D confirms the final interview questions.

QUESTIONS TO EXTERNAL SUPPLIERS

Leadership & Relationships

- Do you consider yourself a strategic supplier to the buying company? To what degree are you exclusively developing and supplying? Are there specific policy documents in place? Comment on the safeguards in place in your supplier-buyer relationship? (Sjoerdsma & van Weele, 2015; Vanpoucke et al., 2014; Wagner & Bode, 2014)
- How did this relationship start? Evolve/develop? Reason for starting / initial intention? Were there set-up difficulties? How do you see the relationship evolving in the future? (Sjoerdsma & van Weele, 2015; Vanpoucke et al., 2014; Von Hippel, 1988)
- With how many retailers do you have a close development relationship? Do you work with any competing retailers? (Sjoerdsma & van Weele, 2015; Vanpoucke et al., 2014)
- Evaluate the level of trust in this buyer-supplier relationship? How close is the tie between this supplier and the company? How much comfort is there? How transparent is the communication? Examples? (Day et al., 2013; Gao et al., 2015; Goffin et al., 2006; Hingley et al., 2015; Powell et al., 1996; Sjoerdsma & van Weele, 2015; Wu & Wu, 2015)
- Is the buyer-power responsibly managed in your relationship; please give examples. (Day et al., 2013; Goffin et al., 2006; Hingley et al., 2015; Sutton-Brady et al., 2015; Wu & Wu, 2015)

Innovation Process; Knowledge

- Comment on the type of know-how you contribute, as a supplier, from being close to the coal-fire of product initiation, creation and consistent manufacturing? Elaborate on specific proprietary know-how that this supplier / you have brought into the innovation equation? Are your contributions taken seriously? (Day et al., 2013; Ganesan et al., 2009; Goffin et al., 2006; Johnsen, 2009)
- Comment on type knowledge shared by the company; how much of it is relevant? How much of it simply adds noise? How much info comes from you as the supplier? How much of the information represents the customer voice? How much of the information is based on trend forecasting? Commercial success or signal? How diverse are the voices (internal and external) that give input to this cluster's innovation? (Bönte, 2008; Ganesan et al., 2009; Hughes & Perrons, 2011; Jelinek & Schoonhoven, 1990; Kim et al., 2015; Zhang et al., 2015)
- From the end-customer's perspective, if you had to compare your innovation to other innovation inside the brand, is the work of this innovation cluster and improvement or brand new innovation? At which stage in the innovation process does the voice of the end-user/end-consumer come into play? How salient is this voice? (Cantarello et al., 2013; McLaughlin et al., 1999; Mohr, 1969; Tuomi, 2002)
- Have you enabled any development cost reduction, quality improvements and shortened time to market? (Van der Valk & Wynstra, 2005)

- Are there specific launch windows for new products? How malleable are these windows? Do you use structural ways of working together? (Jelinek & Schoonhoven, 1990; Sjoerdsma & Van Weele, 2015; Vereecke & Boyer, 2014)
- How is CAPEX requirements and investments off set with project risk? (Füller & Jonas, 2013)
- How often is historic data/knowledge on innovation incorporated into decisions? How well are past and present products, manufactured by you, performing? Is the innovation considered successful? Based on what? How well is this blended with new internal and external data/knowledge and translated into commercial usefulness? (Hristov & Reynolds, 2015; Tsai, 2009)
- To what degree do you wait for the retailer to initiate new product directions? To what degree does the retailer wait for you to initiate new product directions? To what degree is there a reliance and trust towards suppliers to initiate innovation (Füller & Jonas, 2013; Pisano, 1990; Wagner & Bode, 2014)
- How do you balance efficiency of your existing operations on the one hand vs the need for newness in your business (Terziovski & Guerrero, 2014)

QUESTIONS TO INTERNAL TEAMS

Internal Team; Leadership & Relationships

- How do the internal reporting structures enable innovation? What is the quality of the interaction between you and the leader you report to? What is the quality of your direct reports? Do you feel inspired and motivated to achieve breakthrough innovation? Please provide examples? To which degree are the leaders of your innovation cluster inspiring with a vision, encouragement, roadmap and support in challenges? (Dulebohn et al., 2012; Jelinek & Schoonhoven, 1990; Ryan & Tipu, 2013; Von Hippel, 1988;)
- Length of relationships (internal team, external - supplier); talent turnover (internal team)? (Jelinek & Schoonhoven, 1990; Von Hippel, 1988)
- To what degree is your own innovative thinking incorporated and valued by your team and people you report to? Do you have sufficient autonomy and influence to get the job done? Are your ideas recognised and appreciated? (Li et al., 2014; Mumford & Licuanan, 2004).
- As a leader of innovation, are you challenged by often being required to wear different hats? Sometimes these different hats may have competing demands? Likewise, how do you experience the collision of “thoughtworlds” with inter-departmental (development, technical, marketing) collaboration for innovation Rate the level of internal information sharing in your unit? In your department? In the business? With this particular supplier? With suppliers in general? (De Clercq et al., 2011; Li et al., 2014; Mumford & Licuanan, 2004).
- Where do you feel your unit’s innovation system could have more support: daily tasks, risk management, time, more resources? How many products are generally successful? To what degree is your unit able to do post mortems on innovation mistakes or detours? (Dibrov, 2015; Ferreira et al., 2015; Hueske et al., 2015)

Innovation Cluster Supplier Relationship

- How many suppliers does your unit work with (all suppliers vs key suppliers)? With how many suppliers do you have a committed buy-sell relationship? How many suppliers do you have in the same category? (Sjoerdsma & van Weele, 2015; Vanpoucke et al., 2014)
- Have you experienced any development cost reduction, quality improvements and shortened time to market in working with this supplier opposed to doing development independently? (Van der Valk & Wynstra, 2005)
- Is the buyer-power over this supplier responsibly managed; please give examples. (Day et al., 2013; Goffin et al., 2006; Hingley et al., 2015; Sutton-Brady et al., 2015; Wu & Wu, 2015)
- To what degree do you wait for this supplier to initiate new product directions? To what degree is there a reliance and trust towards this supplier to initiate innovation (Füller & Jonas, 2013; Pisano, 1990; Ren et al., 2015; Wagner & Bode, 2014)
- How do the external reporting structures with suppliers enable innovation? (Jelinek & Schoonhoven, 1990)
- What kind of relationship do you have with this supplier? To what extent could the tie be described as mutually benefiting? To what extent is there mutual trust? Why is there buyer-supplier trust in this relationship? To what extent is there willingness to jointly solve problems? What action plans did you do together in the last three years? (Bönte, 2008; Day et al., 2013; Gao et al., 2015; Goffin et al., 2006; Hingley et al., 2015; Hughes & Perrons, 2011; Kelly & Bisel, 2014; Vanpoucke et al., 2014; Sjoerdsma & Van Weele, 2015; Wu & Wu, 2015)
- What are the idiosyncratic assets (specific procedures, technology, human assets, investments) in the relationship? (Sjoerdsma & van Weele, 2015; Vanpoucke et al., 2014)
- What kind of risks do you need to take in this relationship with this supplier? What is the risk versus return? What kind of investments (CAPEX etc) is required by this supplier to enable specific advances in innovation? (Powell et al., 1996; Sjoerdsma & Van Weele, 2015; Vanpoucke et al., 2014; Wagner & Bode, 2014)
- Which type of information do you share with this supplier? (Sjoerdsma & van Weele, 2015; Vanpoucke et al., 2014)

Innovation Cluster

- From the end-customer's perspective, if you had to compare your innovation to other innovation inside the brand, is the work of this innovation cluster and improvement or brand new innovation? At which stage in the innovation process does the voice of the end-user/end-consumer come into play? How salient is this voice? What is the degree to which the end-consumer voice is featured in development processes? (Cantarello et al., 2013; McLaughlin et al., 1999; Mohr, 1969; Tuomi, 2002; Van der Valk & Wynstra, 2005)
- How often is historic data/knowledge on innovation incorporated into decisions? How well are past and present products in your unit performing? Is the innovation considered successful? Based on what? How well is this blended with new internal and external data/knowledge and translated into commercial usefulness? Has there been a stage where the diverse voices as input to the innovation has been counterproductive? (Hristov & Reynolds, 2015; Ren et al., 2015; Tsai, 2009)
- What is the flexibility in launching in a different window to the allocated launch time? What is the importance of following stage gates? (Cooper, 1990; Cooper, 2011; Jelinek & Schoonhoven, 1990)

- How often is historic data/knowledge on innovation incorporated into decisions? How well are past and present products from this supplier performing? Is the innovation considered successful? Based on what? How well is this blended with new internal and external data/knowledge and translated into commercial usefulness? (Hristov & Reynolds, 2015; Tsai, 2009)
- Do you feel satisfied with the amount of information you have in order to effectively innovate? (Sipos et al., 2014)

QUESTIONS TO INDUSTRY EXPERTS

- To which degree should strategic suppliers be exclusive? How many suppliers should coexist in the same category? (Sjoerdsma & Van Weele, 2015; Vanpoucke et al., 2014; Wagner & Bode, 2014)
- Should there be a specific policy in place for how to work with strategic suppliers? Which specific safeguards should be in place to govern this relationship? (Sjoerdsma & Van Weele, 2015; Vanpoucke et al., 2014; Wagner & Bode, 2014)
- To what degree and in which situations is open innovation (involving suppliers etc) successful in private label grocery context? Which conditions enable buyer-supplier collaboration on innovation projects? What should be the benefits of being involved in the company's innovation, both from supplier and retailer perspective? (Bönte & Keilbach, 2005; Cheng & Chen, 2013; Ren et al., 2015; Tsai, 2009)

Appendix D: Qualitative interview questions

Below follow the final questions distilled from the work in Appendix C.

QUESTIONS TO EXTERNAL SUPPLIERS

Leadership & Relationships

- 1) Opening background information: how long have you supplied the retailer and what is transactional nature or status of your relationship (i.e. 'strategic', 'exclusive' etc.)
- 2) Elaborate on the evolution of this relationship since the beginning, referring to each stage of how the relationship progressed.
- 3) What is the nature or quality of the interaction between you and the retailer in general and the specific people you collaborate with?
- 4) Evaluate the trust that exists between you and the people you work with at [company name here]?
- 5) To which degree do these direct collaborators at [company name here] inspire with a vision, encouragement, a roadmap and support in challenges?
- 6) Elaborate on the coaching and mentorship you receive from [company name here].
- 7) Irrespective of [company name here]'s requirements, how do you approach improvement and newness in your business?
- 8) Which aspects are in place to make you feel safe in this supplier-buyer relationship?
- 9) Elaborate on the buyer's balance of power in your relationship and how this is managed?

Innovation Process; Knowledge

- 1) How does the reporting, communication and systems between you and the retailer relate to new product development?
- 2) Elaborate on the information or knowledge that is exchanged: from your side, as well as the retailer's side.
- 3) When a new product is to be developed, talk a bit more about how it starts, exchange of between you and the [company name here] team and general process?
- 4) If you had to compare your company's innovation to other innovation inside the brand, how would you describe the innovation that is concluded with your company?
- 5) What kind of innovations or newness (product and/or process) have you made in your business?
- 6) In your relationship, how do you manage risks on both sides? Are you comfortable to, for example, purchase expensive equipment and does this feel like taking a big risk?
- 7) How do you balance efficiency of your existing operations on the one hand vs the need for newness in your business?
- 8) How innovative do you perceive [company name here] to be?

QUESTIONS TO INTERNAL TEAMS

Internal Team; Leadership & Relationships

- 1) Describe the interaction between you and the direct manager you report to?
- 2) Describe the interaction between you and team members that you manage?
- 3) To which degree are your unit managers inspiring you and the unit with a vision, encouragement, roadmap and support in challenges?
- 4) What is the length of relationships of your team, as well as the talent turnover?
- 5) To what degree is your own innovative thinking incorporated and valued by your team and people you report to? Elaborate on your autonomy/influence/scope to get the job done.
- 6) As a leader of innovation, you are often required to wear different hats and collaborate with other departments. How does this play out in reality?
- 7) For high-performance in innovation, what are the ideal individual qualities required?

Innovation Cluster Supplier Relationship

- 1) How many suppliers does your unit work with (all suppliers vs key “strategic/exclusive” suppliers)?
- 2) Describe the nature of your relationship with [specific supplier name here]?
- 3) What are the aspects in place - like specific procedures, technology, human assets, investments - specific to this supplier relationship?
- 4) What type of knowledge / information do you exchange with this supplier?
- 5) How do general external reporting structures with suppliers link up with new product development success? In other words, how reliant is innovation performance on supplier accountability?

Innovation Cluster

- 1) How do the internal and external (supplier) reporting structures and systems enable new product development? Please provide examples?
- 2) Elaborate on new product initiation, development and final commercialisation in your unit.
- 3) How is information or knowledge shared or transferred? For example, there is information coming from the retailer to you, and visa versa; elaborate on this exchange.
- 4) When an innovative product is ready (perhaps earlier than planned), but the launch window is still months away, what is the scope to accommodate the product launch at an earlier stage?
- 5) Where do you feel your unit’s innovation system could have more support from the leaders or managers that your unit reports to?
- 6) How innovative do you perceive [company name here] to be?

QUESTIONS TO INNOVATION EXPERTS

Leadership; Relationships

- 1) How is innovation best chartered from a leadership perspective?
- 2) What are the relational components to ensure likelihood of innovation success?
- 3) What are the ideal team member qualities or behaviours for innovation performance?
- 4) How does reality of well managed internal relationships and team performance accountability stack up?

Supplier Relationships

- 1) Elaborate on ideal supplier status mix (i.e. exclusivity, strategic status), which is both in the interest of suppliers and retailers.
- 2) What does supplier leadership qualities for likely successful innovation outcome look like?
- 3) What are the ideal supplier traits for ideal collaboration and innovation performance?
- 4) How are risks best managed from both supplier and retailer?

Innovation; Knowledge

- 1) To what degree and in which situations is open innovation (for example involving suppliers in the process) a good idea in private label grocery context?
- 2) What should be the benefits of being involved in the company's innovation, both from supplier and retailer perspective?
- 3) At which stage in the innovation process does the voice of the end-user/end-consumer come into play? How important is this voice?
- 4) Describe an ideal information / knowledge exchange strategy for (a) for internal teams and (b) with suppliers.

Appendix E: Ethical considerations

Quantitative Consent Documentation

Dear [retailer name] Team

You've been selected to participate in a **Breakthrough Innovation Survey**. The data from the survey will be used as part of research with the aim of identifying which factors influence breakthrough innovation success at [retailer name]. The research also forms part of a researcher's PhD studies at the University of Stellenbosch. The survey consists of multiple-choice short questions and should take a focused 15 minutes to complete.

WHY THIS STUDY IS RELEVANT

Your perceptions are critical to this evaluation as this will provide management with valuable feedback to identify the levers that promote success in product innovation. By completing the survey you agree that the data you provide can be used for research purposes.

ASSURANCE OF CONFIDENTIALITY

The entire survey process will follow strict confidentiality requirements as indicated below:

- (1) The survey is anonymous; no one but the researcher will see your questionnaire.
- (2) No individual responses will be reported and no attempt will be made to identify individual respondents.
- (3) The facilitator is to report only statistical summaries by demographic sections.
- (4) The facilitator will tabulate the survey results.

COMPLETION GUIDELINES

- (1) Participation is voluntary. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind.
- (2) By continuing to complete the questionnaire, you give consent to participate in the research.
- (3) At no stage do you need to complete your name, as this survey is **completely anonymous**.
- (4) There is no right or wrong answer.

ENQUIRIES

You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the University of Stellenbosch Division for Research Development.

* 1. Consent

Yes, by clicking here, I accept and give consent to proceed with the survey.

Note. The grocery retailer's name was redacted as part of the confidentiality agreement with the organisation.

Qualitative Consent Documentation

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jou kennisvenoot • your knowledge partner

CONSENT TO PARTICIPATE IN RESEARCH

Title of research project	: The impact of leadership and relational quality on product innovation performance
Researcher	: Jeanne von Hirschberg
Research supervisor	: Prof Mias de Klerk
Department	: University of Stellenbosch Business School
Qualification	: PhD

You are asked to participate in this research study. You were selected as a possible participant in this study because you are directly involved in Breakthrough Product Innovation at [retailer name].

1. Purpose and benefits of the study

The study is designed to ascertain the leadership and relational quality that underscores the achievement of breakthrough innovation; the study takes a view on both internal and external leadership and relational quality.

2. Procedures

Should you volunteer to participate in this study, the following information should orientate you:

- Avail yourself for a 60 minute in-person interview at a venue of your choosing/convenience;
- This interview will be electronically voice-recorded to enable the researcher to fully concentrate on your responses and to transcribe it for future analysis;
- Your identity will be kept confidential and you will be referred to in coded fashion;
- Possibly allow for follow-up telephonic/emailed questions, perhaps to obtain further clarity;

3. Potential risks and discomforts

You will be asked a series of questions relating to the leadership and relationships involved in achieving breakthrough innovation. If at any stage, you are uncomfortable to answer the question, you may decline without prejudice.

4. Confidentiality and protection of participants

- Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law.
- Confidentiality will be maintained by means of coding each interviewee's response; there will be no reference to name on the electronic voice-recording, and will rather feature a coded identification.
- The interviewee may request a copy of the recording at any stage.
- Data will be stored electronically, in a secure location, with sufficient back-ups in secure cloud-based locations.
- No one will have access to the raw data, other than the researcher and her supervisor.
- The company will receive aggregate information, pertaining to the whole unit.
- Should the researcher publish an academic article, 100% confidentiality will be maintained for individuals, units, suppliers and company as a whole.

5. Payment for participation

Since this is an academic exercise, there will be no financial compensation for participation. The researcher will cover all her own expenses including travel, accommodation etc.

6. Participation and withdrawal

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you do not want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so. [

7. Contact detail

If you have any questions or concerns about the research, please feel free to contact the researcher [+27 (0)82 339 5978, 13336746@sun.ac.za] and/or the Supervisor Professor Mias de Klerk [Tel: +27 (0)21 918 4139, Mias.deKlerk@usb.ac.za].

8. Rights of research subjects

Should you decide to withdraw your consent at any time and discontinue participation, you do this without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the University of Stellenbosch Division for Research Development.

DECLARATION AND SIGNATURE OF RESEARCH SUBJECT

The information above was explained to me by Jeanne von Hirschberg in clear terms. I was given the opportunity to ask questions and these questions were answered to *my* satisfaction.

I hereby consent voluntarily to participate in this study. I have been given a copy of this form.

Name of subject or participant:

Signature: **Date:**

DECLARATION AND SIGNATURE OF RESEARCHER

I declare that I explained the information provided in this document to _____ [*name of the subject/participant*]. [*He/she*] was encouraged, and given ample time, to ask me any questions.

Ethical Clearance Letter for Quantitative Research

23 March 2016

Dear Jeanne

Re: Ethical screening: Jeanne von Hirschberg - Approved with stipulations (SU-HSD-002251)

US ID No : 13336746
 Research programme : PhD
 Title : the impact of leadership and relational quality on successful product innovation
 Supervisor : Prof Mias de Klerk

The Departmental Ethics Screening Committee of the University of Stellenbosch Business School (USB DESC) reviewed your application for the above-mentioned research. The research as set out in the application has been approved with stipulations as per the attached explanation.

We would like to point out that you as researcher are obliged to maintain the ethical integrity of your research. As such, you should adhere to the ethical guidelines of Stellenbosch University, and remain within the scope of your ethical clearance application and the supporting evidence submitted to the USB DESC. Should any aspect of your research change from the information as presented to the USB DESC, which could have an effect on the possibility of harm to any research subject, you are under the obligation to report it immediately to your supervisor. Should there be any uncertainty in this regard, consult with the USB DESC.

We wish you success with your research, and trust that it will make a positive contribution to the quest for knowledge at the USB and Stellenbosch University.

Should any research subject, participating organisation, or person affected by this research have any questions about the research, feel free to contact any of the following:

Researcher : jeanne.loubser@gmail.com
 Supervisor : Mias.deKlerk@usb.ac.za
 USB DESC Chair : Mias.deKlerk@usb.ac.za

Yours sincerely

Professor Mias de Klerk
Chair: USB Departmental Ethics Screening Committee

2/...



Universiteit van Stellenbosch Bestuurskool - University of Stellenbosch Business School
 Adres / Address: Postbus / PO Box 610 Bellville 7530. Carl Coorssen Ryssen / Drive Bellville 7530
 Tel: +27 (0)21 910-4111 - Epos / Email: usbcom@usb.ac.za - Webwerf / Website: www.usb.ac.za

Ethical Clearance Letter for Qualitative Research

05 November 2018

Dear Jeanne

Re: Ethical screening: Jeanne von Hirschberg - Approved with stipulations (USB-2018-8711)

US ID No : 13336746
 Research programme : PhD
 Title : The impact of leadership and relational quality on product innovation performance
 Supervisor : Prof Mias de Klerk

The Departmental Ethics Screening Committee of the University of Stellenbosch Business School (USB DESC) reviewed your application for the above-mentioned research. The research as set out in the application has been approved with stipulations as per the attached explanation.

You as researcher are obliged to maintain the ethical integrity of your research. As such, you should adhere to the ethical guidelines of Stellenbosch University and remain within the scope of your ethical clearance application and the supporting evidence submitted to the USB DESC. Should any aspect of your research change from the information as presented to the USB DESC, you are under the obligation to report it immediately to your supervisor. Should there be any uncertainty in this regard, consult with the USB DESC.

Please note that this approval may still be subject to ratification by the Stellenbosch University Research Ethics Committee. For more information on this ratification, please contact Clarissa Graham at cgraham@sun.ac.za.

We wish you success with your research and trust that it will make a positive contribution to the quest for knowledge at the USB and Stellenbosch University.

Should any research subject, participating organisation or person affected by this research have any questions about the research, feel free to contact any of the following:

Researcher : jeanne.loubser@gmail.com
 Supervisor : mias.deklerk@usb.ac.za

Yours sincerely

A handwritten signature in black ink, appearing to read 'Mias de Klerk'.

Digitally signed by Prof Mias de Klerk
 DN: cn=Prof Mias de Klerk, o=USB, ou,
 email=mias.deklerk@usb.ac.za, c=ZA
 Date: 2018.11.05 14:57:45 +02'00'

Professor Mias de Klerk
Chair: USB Departmental Ethics Screening Committee

2/...



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Each transcription includes a signed NDA with the transcriber:

Non-Disclosure Agreement with Transcriber



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jou kennisvennoot • your knowledge partner

NON-DISCLOSURE AGREEMENT

Title of research project : The impact of leadership and relational quality on product innovation performance
Researcher : Jeanne von Hirschberg
Transcriber : Nilana Loubser
Department : University of Stellenbosch Business School
Qualification : PhD

1. I, Nilana Loubser, as transcriptionist, agree to maintain full confidentiality of all research data received from **(the University of Stellenbosch / Jeanne von Hirschberg)** related to this research study.
2. I will hold in strictest confidence the identity of any individual that may be revealed during the transcription of interviews or in any associated documents.
3. I will not make copies of any audio-recordings, video-recordings, or other research data, unless specifically requested to do so by the researcher.
4. I will not provide the research data to any third parties without **(the University of Stellenbosch / Jeanne von Hirschberg)**'s consent.
5. I will store all study-related data in a safe, secure location as long as they are in my possession. All video and audio recordings will be stored in an encrypted format.
6. All data provided or created for purposes of this agreement, including any back-up records, will be returned to the research team or permanently deleted. When I have received confirmation that the transcription work I performed has been satisfactorily completed, any of the research data that remains with me will be returned to the research team or destroyed, pursuant to the instructions of the research team.
7. I understand that **(the University of Stellenbosch / Jeanne von Hirschberg)** has the right to take legal action against any breach of confidentiality that occurs in my handling of the research data.

Transcriber's name: Nilana Loubser
 Transcriber's signature:
 Date: 14/11/2019

Letters from head of innovation for completion of Survey Monkey questionnaire

From: [head of innovation name and email address]
Subject: Innovation Survey.
Date: 12 October 2018 at 12:27
To: [head office email group], Jeanne von Hirschberg

Dear [retailer name] Head Office Team

We are conducting a comprehensive anonymous study on Breakthrough Innovation at [retailer name] in collaboration with the Business School at the University of Stellenbosch. The outcome of the study will provide valuable feedback to ensure that [retailer name] remains at the cutting edge of international innovation performance.

The attached survey will take a focused 15 minutes to complete and you can complete it via your smartphone/tablet/pc.

https://www.surveymonkey.com/r/breakthrough_innovation [retailer name]

Since it is **anonymous** and independently administered, you are requested to be as frank as possible, in order for the information to be a most authentic reflection.

If we receive more than 350 responses, a cash prize of R2 500 will be awarded (by means of a lucky draw with all the head office names).

Please can I ask that you complete this by the end of next week, deadline Friday the 19th October.

Thank you for your participation,

[head of innovation name and email signature]

Note. The grocery retailer's name and email addresses were redacted as part of the confidentiality agreement with the organisation.

Example of a letter from the head of innovation to initiate the interview

From: [head of innovation name and email address]
Sent: 03 October 2018 10:02 AM
To: [supplier managing director name and email address]
Subject: Breakthrough Innovation at [retailer name]
Importance: High

Good Morning All at [supplier name]

I hope this mail finds you all well?

Jeanne, (bio below) has approached me to work on her PHD in Innovation with the [retailer name] innovation team.

I have worked with Jeanne in the past and know that she will add enormous value to all that she engages with.

Due to the huge amount of innovation out of [supplier name] and your approach to embracing the innovation I have put you forward for her to engage with on her PHD. Would you be prepared for her to make contact with you and set up time to come and visit? She has signed an NDA and so I am sharing with her the work that we have done and will be doing going forward.

Let me know your thoughts and if I can take this forward?

Thanks,

[head of innovation name]

From: [supplier operations manager name and email address]
Date: Thursday, 04 October 2018 at 10:03 AM
To: [head of innovation name and email address]
Subject: RE: Breakthrough Innovation at PnP

Good Morning [head of innovation name]

We all great thanks for asking!

Hope this finds you well!

We would love to assist Jeanne- on her PHD. Also at the same time a fresh mind always brings A new approach and innovative ideas for us. Please move forward and schedule an introduction with her 😊

Many thanks

Kind regards

[supplier operations manager name]

Operations manager

[supplier name]

Note. The grocery retailer's name, strategic supplier's name and email addresses were redacted as part of the confidentiality agreement with the organisation.

Appendix F: Internal team participant data coding

Table 93 is based on the process of phase 5, described in Table 67. Table 93 lists the top 30 second-level open codes, grouped according to similarity, from highest to lowest occurrence. The relevant element from the conceptual model, as is outlined in Table 68 created anchors to the second-level open codes. Practically, each second-level open code was matched with the element from the conceptual model that it most appropriately represented. Colour codes were assigned to enable easy identification and organised grouping.

Table 93

Phase Five, Second-Level Open Codes, in Order of Groundedness for Internal Team Participants

Colour	Second-level open codes	Groundednes
●	CMX->LMX->PIP: relationship_inno success when suppliers invest in people & equipment	55
●	CMX->LMX->PIP: end-consumer relevance_supplier constantly pushing innovation (despite no formal channel/system to push)	38
●	LMX->PIP: end-consumer relevance_incessant retailer compares with competitors	36
●	LMX: relationship_internal_mostly building functional transactional relationship; maintaining silos	36
●	LMX->CMX: end-consumer relevance_hampered by unambitious, resource-constrained, slacking supplier	35
●	LMX->PIP: inno process_filled with tension as each silo defend their own KPIs and time horizon	33
●	LMX->CMX: knowledge_exchange_two-way flow	30
●	LMX->PIP: end-consumer relevance_understanding who the end-consumer is = innovation success	30
●	LMX->PIP: end-consumer relevance_misunderstanding the definition 'innovation'	28
●	TL: inno strat_vision unclear, strategy incoherent	28
●	TL: leader_pos_impact of a transformational leader	28
●	LMX: silo_intermediary not part of the team	25
●	LMX->PIP: end-consumer data applied to persuade/motivate (recent)	24
●	LMX->PIP: end-consumer relevance_difficult to achieve with unaligned team	24
●	LMX: relationship_internal_silos, unaligned	22
●	TL: inno process_leader_time pressure; interfering for inno fast-tracking	22
●	LMX->PIP: inno process_interlinking non-negotiable sequence of events as part of tight launch-pathway	20
●	LMX: culture_clash_old buyer culture, new developers	19
●	LMX->PIP: inno failure due to lack of all dept buy-in & support in completing all steps	18
●	TL: inno process_leader_signs off delays/issues	18
●	LMX->CMX: relationship_SA limited supplier base, exclusivity difficult, need chinese walls, high trust	17
●	LMX->CMX: relationship_symbiosis, supplier&retailer need eachother	17
●	LMX: relationship_immediate team: high quality	17
●	TL: relationship_direct leader: good exchange	17
●	LMX: relationship_hampered by size and complexity of business	16
●	TL: leader_leading team re.: now and future innovation	16
●	LMX->CMX: transactional_using briefs to play suppliers up against the other	14
●	LMX->CMX: inno strat_improved briefing; comprehensive	13
●	LMX->CMX: transactional_suppliers receive standard information & knowledge	13
●	LMX->PIP: inno process_hampered by retailer resource constraints	12

Table 93 lists a second-level open code, along with the following:

- The colour code and code category, based on the conceptual model that this second-level open code best applied to, for example: RSX->LMX->PIP
- Directly after the code category, an initial thematic grouping label, for example “relationship”
- Level of groundedness, which referred to the frequency at which this second-level open code occurred

For example, the highest ranking second-level open code was 'RSX->LMX->PIP: relationship_inno success when suppliers invest in people & equipment', which referred to the innovation success that could be achieved when suppliers were strategic, investing in their own organisations with the necessary resources and equipment.

Appendix G: External team participant data coding

Table 94 is based on the process of phase 5, described in Table 76. Table 94 lists the top 50 second-level open codes, grouped according to similarity, from highest to lowest occurrence. The relevant element from the conceptual model, as is outlined in Table 77 created anchors to the second-level open codes. Practically, each second-level open code was matched with the element from the conceptual model that it most appropriately represented. Colour codes were assigned to enable easy identification and organised grouping.

Table 94

Phase Five, Second-Level Open Codes, in Order of Groundedness for External Team Supplier

Participants

Colour	Second-level open codes	Groundedness
●	TL->RSX: lead_positive impact of high level TL	41
●	RSX->PIP: inno_correct understanding of	31
●	RSX: qual_supp_SL trait(s)	31
●	RSX: power_supp_assertive in achieving success	26
●	RSX->PIP: inno_lead	23
●	RSX: trust_developed/improved over time	23
●	RSX: collab_data sharing shortage	22
●	RSX: trust_supp_honouring social contract	22
●	LMX->PIP: collab_ret_unaligned to end-consumer	21
●	RSX: qual_functional middle level team availability	20
●	RSX->PIP: inno_premature discontinuation	19
●	RSX: collab_supp_maverick	19
●	RSX: collab_ret_team transient & incoherent	18
●	RSX: qual_current relationship strength relevance	18
●	RSX: qual_developing personal relationships	18
●	RSX: qual_value of personal introductions	18
●	RSX->PIP: inno_dedication in solving riddle	17
●	RSX->PIP: inno_solving micro technical riddles	17
●	RSX: collab_ret_team irrational decision-making & personalities	17
●	RSX: collab_ret_team lack of buy-in	17
●	RSX: power_buyer_no skin in the game	17

Colour	Second-level open codes	Groundedness
●	RSX: collab_innovation interplay, communication, tweaking	16
●	RSX: power_buyers non-relational; transactional	16
●	RSX: power_asymmetrical	15
●	TL->RSX: collab_innovation fast-tracking by TL	15
●	RSX->PIP: collab_fickle approval bottlenecks	14
●	RSX->PIP: comm_red tape	14
●	RSX->PIP: inno_insufficient launch support	14
●	RSX: trust_retailer breaking social contract	14
●	TL->RSX: lead_legacy of TL	14
●	RSX: collab_innovation strategy sparse	13
●	RSX: collab_ret_lacks innovation culture	13
●	RSX: comm_functional red telephone	13
●	RSX: qual_collab_good relationships driving innovation success	13
●	RSX: qual_differing priorities / agendas / time horizons	13
●	RSX: power_asymmetrical risk	12
●	RSX: power_balance in place	12
●	RSX: supp_risk_management via eggs in other baskets	12
●	RSX: supp_risk_supp_skin in the game / vulnerability	12
●	RSX->PIP: collab_know_supplier yearning for more context	11
●	RSX: power_buyer coercion	11
●	RSX: qual_strength dependence	11
●	RSX->PIP: inno_efficiency vs future gearing	10
●	RSX->PIP: inno_immediate commercial success imperative	10
●	RSX: collab_supp_strong organisational effectiveness & culture	10
●	RSX: qual_supp_continuous improvement	10
●	RSX: supp_risk_management via responsible supplier	10
●	RSX->PIP: trust_inno_driving-force	9
●	RSX: collab_briefs info-sparse	9
●	RSX: ret_intermediary as another silo; questionable role	9

Table 94 lists a *second-level open code*, along with the following:

- The colour code and code category, based on the conceptual model that this *second-level open code* best applied to, for example: RSX->LMX->PIP
- Directly after the code category, an *initial thematic grouping* label, for example “relationship”

- Level of groundedness, which referred to the frequency with which this *second-level open code* occurred

For example, the highest ranking second-level open code was 'TL->RSX: leadership_positive impact of a highlevel TL', which referred to the powerful effect of a transformational leader on the innovation process.

Appendix H: Innovation expert participant data coding

Table 95 is based on the process of phase 5, described in Table 85. In Table 95 the relevant element from the conceptual model, as is outlined in Table 86, created anchors to the second-level open codes. Practically, each second-level open code was matched with the element from the conceptual model that it most appropriately represented. Colour codes were assigned to enable easy identification and organised grouping.

Table 95

Phase Five, Second-Level Open Codes, in Order of Groundedness for Innovation Expert Participants

Colour	Second-level open codes	Groundedness
●	TL->LMX: leadership_aligned strat, comms, processes, support, opportunity identification, collab	28
●	TL->LMX: leadership_regard bigger picture, team member expertise, not just micro department/team/category	26
●	LMX->PIP: end-consumer relevance_inno success & sustainability end-consumer centricity	25
●	TL->LMX: leadership_cross-functional teams / team diversity	23
●	TL->LMX: leadership_churn all the knowledge to come to trustworthy conclusions	23
●	TL->LMX: leadership_impactful leader as innovation champion, has great effect and gravitas	22
●	TL->LMX: leadership_aligning teams through a company-wide innovation vision, directive & strategy	21
●	CMX->LMX: risk mgmt_communication, openness & accountability to managing risk	21
●	CMX->LMX: relationships_focus on now vs gearing for the future; transactional cycle of grocery retail industry; NOW-machines	20
●	TL->LMX: inno_culture: create a conducive org culture for innovation to flourish	17
●	CMX->LMX: open inno_involves risk; requires transparency, trust between supplier & retailer	15
●	LMX->PIP: end-consumer relevance_the mystery of end-consumer response; can speculate, but the end-user vote is everything	14
●	CMX->LMX: relationships_idea knowledge exchange_detailed briefs, meetings, time investments	14
●	CMX->LMX: relationships_building relationships is critical; need time to develop	14
●	CMX->LMX: open inno_retailer upside: suppliers as experts in their fields; open inno more eyes/expertise, efficiency	14
●	TL->LMX: inno_culture: extract learning from failure; failure file	13
●	CMX->LMX: relationships_develop & invest in supplier partnerships	12
●	CMX->LMX: end-consumer relevance_success requires investment (time, money, appropriate expertise)	12
●	CMX->LMX: relationships_SA limited supplier base, exclusivity difficult, pvt-label only difficult	11
●	CMX->LMX: relationships_an exclusive relationship often leads to a power imbalance which brings complexity	11
●	CMX->LMX: open inno_supplier upside: exposure to end-consumer data; exposure to end-consumer via product placement	11
●	CMX->LMX: end-consumer relevance_assertive supplier, strong leadership	11
●	CMX->LMX: end-consumer relevance_all the voices as part of the conversation from the start	11
●	LMX->PIP: teams_can-do curious passionate team members	10
●	CMX->LMX: end-consumer relevance_end-consumer data valuable in understanding current and future needs	10
●	CMX->LMX: risk mgmt_project specific; should be done on case-by-case basis	9
●	CMX->LMX: relationships_suppliers put major skin into the game; high risk for suppliers to work with retailers	9
●	CMX->LMX: relationships_retailer-supplier relationship difficult when one party has disproportionate autonomy & power	9
●	CMX->LMX: relationships_ego and greed thwarting relationship development & open innovation	9
●	CMX->LMX: end-consumer relevance_as iterative process, that takes time; not always linear	9

Table 95 lists a *second-level open code*, along with the following:

- The colour code and code category, based on the conceptual model that this *second-level open code* best applies to, for example: “RSX->LMX”
- Directly after the code category, an *initial thematic grouping* label, for example “relationships”
- Level of groundedness, which refers to the frequency with which this *second-level open code* occurs

For example, the highest ranking *second-level open code* is 'TL->LMX->PIP: leadership_aligned strat, comms, processes, support, opportunity identification, collab', which refers to the innovation leadership that ensures the presence of a strategy that aligns, with concomitant high levels of communication, work systems, support, innovation opportunities, and collaboration.