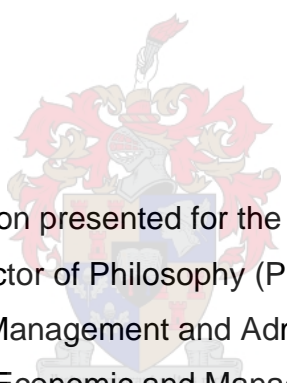


**Conflict, innovation and the moderating role of family influence in the
South African wine industry**

Etienne David-Olivier Heyns

The image shows the crest of Stellenbosch University, which features a shield with various symbols, topped by a crown and surrounded by decorative elements.

Dissertation presented for the degree of
Doctor of Philosophy (PhD)
(Business Management and Administration)
in the Faculty of Economic and Management Sciences
at Stellenbosch University

Supervisor: Prof Tobie de Coning

Co-supervisor: Prof Eon Smit

March 2020

Declaration

By submitting this dissertation electronically, I, Etienne David-Olivier Heyns, declare that the entirety of the work contained therein is my own, original work, that I am the sole author thereof (save to the extent explicitly otherwise stated), that reproduction and publication thereof by Stellenbosch University will not infringe any third-party rights and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

E.D. Heyns

March 2020

Abstract

Family businesses have unique attributes that distinguish them from their non-family counterparts. This also applies to conflict and innovation – two key aspects regarding the long-term sustainability of these businesses. This study investigated the impact of family influence in terms of conflict and innovation, by scrutinising the potential moderating effect of family influence on the relationship between conflict and innovation in the South African wine industry.

A research framework comprising multi-item measures of innovation, family influence and conflict was designed to investigate the potential moderating effect of family influence. This framework was applied in a quantitative study among members of the top management teams of family businesses in the South African wine industry.

A questionnaire was developed by adopting existing scales, based on scholarly literature and input from a panel of experts. Subsequently, a large-scale survey served as the primary data source and yielded data that could be used to model the relationships under investigation. Moderator analyses and partial least square structural equation modelling were utilised to determine the moderating role of family influence. The correlations between the dimensions of family influence and conflict, as well as innovation were also evaluated.

The study's meaningful findings indicate that family commitment is a significant moderator of the relationship between task conflict and innovation. Additional key findings suggest that relationship conflict and harmony as a non-economic family goal are both moderators of the relationship between task conflict and innovation. Practical implications of these findings regarding managing conflict in family businesses were discussed in terms of promoting a family business environment conducive to innovation. Relationship conflict was presented as a dimension of family influence.

The study makes a contribution to stewardship theory by providing new perspectives on the roles of family commitment, family harmony as non-economic goal and relationship conflict on decision comprehensiveness, participative governance and long-term orientation. Furthermore, the study provides a new perspective on the preservation of socio-emotional wealth by relating socio-emotional wealth priorities (family members identifying with the business, preserving binding social ties among family members, emotional attachment of family members and dynastic succession) to conflict and innovation.

Key words

Conflict, family business, family goals, family harmony, innovation, long-term orientation, non-economic family goals, socio-economic goals, wine industry.

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List of acronyms and abbreviations

AGFI	adjusted goodness-of-fit index
ANOVA	analysis of variance
AVE	average variance extracted
CB-SEM	covariance-based structural equation model
CEO	chief executive officer
CFA	confirmatory factor analysis
COI	components-of-involvement
FABASA	Family Business Association of South Africa
FC	family conflict
FCNE	family-centred non-economic
F-PEC	Family Influence on Power, Experience, and Culture
GFI	goodness-of-fit index
HTMT	heterotrait-monotrait (ratio)
Innov	innovation
JSE	Johannesburg Stock Exchange
PET	Polyethylene terephthalate
PLS-SEM	partial least squares structural equation model
PwC	PricewaterhouseCoopers
R&D	research and development
RC	relationship conflict
RMSEA	root mean square error of approximation
SAWID	South African Wine Industry Directory
Sawis	South African Wine and Information System
SBDC	Small Business Development Centre
SEM	structural equation modelling
SMC	squared multiple correlations
SMEs	small and medium-sized enterprises
TC	task conflict
UK	United Kingdom
USA	United States of America
USB	University of Stellenbosch Business School

CHAPTER 1

INTRODUCTION

Creativity comes from a conflict of ideas – Donatella Versace.

1.1. INTRODUCTION

This research study concerns the empirical investigation of the moderating role of family influence on the relationship between conflict and innovation in family businesses that produce and sell wine in the South African wine industry. The process that was followed included developing a suitable conceptual framework to scrutinise the relationships between the key constructs (family influence, conflict and innovation), as well as to identify and validate suitable measures for each of the constructs. A framework was developed to evaluate the potential moderating effect of family influence on the relationship between conflict and innovation.

1.2. BACKGROUND TO THE STUDY

The South African wine industry is an example of an established industry that mostly comprises family businesses (Brundin & Wigren-Kristoferson, 2013). However, there has been a steady decline in privately-owned wineries, from a peak of 524 in 2009 to 472 wine cellars in 2017, out of a total of 546 wineries (Sawis, 2017).

According to Van Rooyen, Esterhuizen and Stroebel (2011), reasons for a challenging and competitive business environment for the wine industry include the world economic slowdown, declining levels of wine consumption and sustained international strengthening in the value of the local currency. This is further reflected by lack of profitability (Van Niekerk, 2016). VinPro is an organisation that represents 3 500 South-African wine and wine grape producers. VinPro indicated that only one third of primary wine grape producers are profitable (Van Niekerk, 2016).

Innovation is argued to be a necessary condition for continuity of family businesses (Bergfeld & Weber, 2011; Carnes & Ireland, 2013; De Massis, Frattini, Kotlar, Petruzzelli & Wright, 2016; Zahra, 2005). This also applies to the wine industry, which specifically presents a unique balance between upholding tradition and driving innovation (Brundin & Wigren-Kristoferson, 2013; Vrontis, Bresciani & Giacosa, 2016). This study attempts to add to the scholarly knowledge of innovation and conflict by investigating the potential of the moderating role of family influence. This specifically builds on Jehn and Bendersky's (2003: 226) argument that the key to understanding the influence of conflict in organisational groups is to realise that there are various forms of moderators that will affect the various conflict types differently.

According to Mouton (1996:101), a study's research objectives, are driven by the researcher's background knowledge of the phenomenon to be researched and the researcher's interests, intent, and preferences. The researcher of this study is a business development strategist in the South

African wine industry, where the majority of businesses are family-owned, including the researcher's own second generation wine and olive oil estate, Oudeberg in Stellenbosch.

The researcher was the head of communications and innovation at VinPro for a decade, before joining the French-owned and partially family-owned and managed international business, AdVini, as business development strategist for their South African interests, which included the acquisition of the previously family-owned Ken Forrester Vineyards. Working as a communications specialist in the wine industry, the researcher gained knowledge, experience and insights in terms of the broader wine industry. He was well positioned to keep abreast with the business environment in which these businesses operate, as well as the successes and failures of individual businesses. The researcher specifically gained significant insights into family-owned and managed wine businesses in a very competitive environment. This included reporting on and direct involvement in the full or partial take-over of previously family-owned businesses like Amani, Reyneke Family Vineyards and Seidelberg Estate. A significant international example of such a take-over of a family wine business by a big corporate, was the acquisition of Kim Crawford by Constellation Brands in 2003 (Androich, 2014). Conversely, several South African and international family-owned wine businesses, such as Fairview, Van Loveren, Diemersdal and Kleine Zalze (Heyns, 2015), as well as the world's largest wine family business, California's E & J Gallo Winery (Beverage News, 2014), have shown notable growth and presented innovation in terms of product development, social development and distribution.

Meanwhile, as a strategist at an international wine company, the researcher gained specific insights into the management and specifically innovation of a family-owned and managed wine business. The family at the helm of AdVini, the Jeanjean family, has shown how a family business can expand over five generations to become the fourth-largest wine company in France (Jefford, 2017). Innovation has been crucial to the long-term success of the Jeanjean wine business, with the business changing from a wine merchant to a wine grower and eventually, a global business that influences and controls different aspects of the wine industry – from vinegrowing to distribution and e-commerce.

Scholarly literature indicated that family influence can have both a positive and a negative influence on family business innovation (De Massis, Frattini & Lichtenthaler, 2013). Positive attributes associated with family influence include commitment in terms of long-term investment (Konig, Kammerlander & Enders, 2013), enhanced entrepreneurial behaviour (Gómez-Mejía, Hynes, Nunez-Nickel & Moyano-Fuentes, 2007) and more flexible decision-making processes (Craig & Moores, 2006). Negative implications of family influence include fewer resources allocated to innovation-based inputs such as research and development (R&D) (Block, 2012; Chen & Hsu, 2009), as well as greater reluctance towards new technology (Souder, Zaheer, Sapienza & Ranucci, 2016).

Mixed findings on the influence of family influence on innovation have led to an increase in studies investigating factors that could potentially play a mediating or moderating role in the relationship between family influence and performance (Carnes & Ireland, 2013; Kellermanns, Eddleston, Sarathy & Murphy, 2012). While some family businesses flourish, others struggle with conflict (Eddleston & Kellermanns, 2007) and relationship issues are a serious consideration when evaluating the sustainability of these businesses (Sharma, 2004; Tucker, 2011).

The beneficial attributes of conflict in family businesses could include increasing business decision options through constructive debate, the prevention of premature consensus by considering decisions, and the subsequent promotion of collaboration (Cosier & Harvey, 1998; Kellermanns & Eddleston, 2004). However, conflict is also noted to hinder the succession process (Venter, 2003) and the majority of conflict studies suggest that conflict is generally to be considered negative (O'Neill, Allen & Hastings, 2013). Fragmented findings have led to an increase in studies that involve moderators that influence the outcomes of conflict, including within-team trust (Simons & Peterson, 2000), when the criterion was decision-making performance and when it involved top management teams (De Wit, Greer & Jehn, 2012), knowledge integration (Xie, Wang & Luan, 2014), the team's life cycle (Goncalo, Polman & Maslach, 2010) and goal orientation (Huang, 2010).

Inspired by personal experience in family businesses in the South African wine industry, the researcher intended to gain insights that could contribute to the sustainability of family businesses in the South African wine industry context. This was done by utilising existing scholarly knowledge of three prominent topics of family business research – family influence, conflict and innovation – and scrutinising the relationships and moderating influences among these constructs. The following section provides an overview of the framework utilised to measure and examine the proposed constructs.

1.3. RESEARCH FRAMEWORK

Despite heterogeneity in family businesses (Chua, Chrisman, Steier & Rau, 2012), businesses that are family-owned exhibit characteristics and resources (Habbershon, Williams & MacMillan, 2003) that distinguish them from non-family businesses. Therefore, family businesses exhibit unique attributes compared to businesses that are not family-owned or managed, even though there are also differences among individual family businesses. Through an extensive literature review, this study identified the key attributes of family influence. Concurrently, recent knowledge of the influence of innovation and conflict in family businesses was studied. This was followed by a process of identifying suitable measures of family influence, conflict and innovation.

A research framework was developed to structure the study, in terms of the key attributes that were measured, as well as the relationships and moderating influences that were studied. This framework is presented in Figure 1.1 and forms the basis of the hypotheses development and presentation of

results. The three key constructs are presented in the blue blocks, while the different arrows reflect the respective relationships between the constructs that were measured.

In order to gain a proper understanding of the relevance of family influence in terms of conflict and innovation, the relationships between the dimensions of family influence and the different types of conflict and innovation were measured. The arrow at the bottom represents the moderating effect of family influence. The relationships that were measured were presented in the hypotheses, supported by existing scholarly literature (refer to Section 1.4.6).

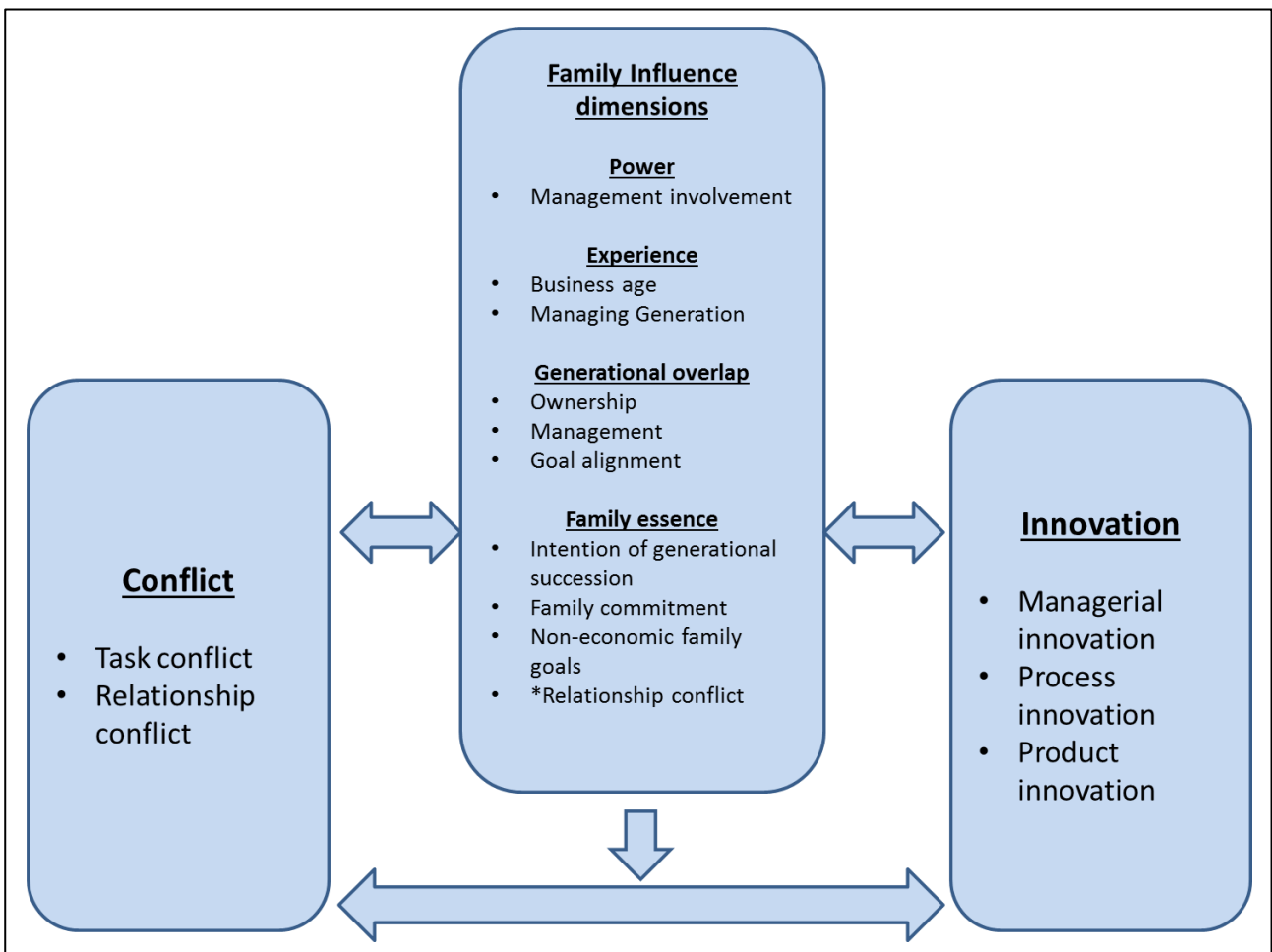


Figure 1.1: Framework of studied attributes

The dimensions of each of the key constructs were based on family business literature. The measures selected and the validation of the respective scales are presented in Section 3.2. The conflict construct comprises relationship and task conflict, based on a validated scale presented by Pearson, Ensley and Amason (2002).

'Relationship conflict' refers to animosity surrounding interpersonal relationships among co-workers, pertaining to personalities and dispositions, while 'task conflict' entails controversy over the job or project that the group is focusing on: the content and the goals of the work (Jehn, 1997: 539-540). For the purpose of this study, these definitions were altered for the context of family businesses, aligned with the items used to measure these constructs: 'Relationship conflict' refers to animosity

surrounding interpersonal relationships among business family members, pertaining to personalities and dispositions. 'Task conflict' entails controversy over the job or project that family business is focusing on, namely: the content and the goals of the work. *Relationship conflict as a dimension of family essence was investigated as a moderator of specifically the relationship between task conflict and the different types of innovation.

'Family influence' comprises multiple dimensions which should be considered independently (Astrachan, Klein & Smyrnios, 2002). For the purpose of the present study, these dimensions comprised elements of the components-of-involvement (family power, family experience and generational overlap) and family essence approaches, in line with the F-PEC (Family Influence on Power, Experience, and Culture) scale (Astrachan et al., 2002; Klein, Astrachan & Smyrnios, 2005). Family essence involves family business behaviours (Chrisman, Chua & Sharma, 2005) and is an important aspect of the present study, since it involves the behaviour that results from family involvement (Rutherford, Kuratko & Holt, 2008) and could therefore determine how involvement influences both innovation and conflict.

The innovation sub-scales used by Che-Ha, Mavondo and Mohd-Said (2014), namely, managerial, process and product innovation, were adopted for the present study.

'Managerial innovations' can be defined as organisational structures and management practices, processes, and techniques that could create value for the organisation (Birkinshaw, Hamel & Mol, 2008; Kimberly, 1981). For the present study, managerial innovation relates to how the management and family perceive and reward new ideas, as well as invest in new research and development.

'Process innovations' can be defined as new elements introduced into a business's production or service operation to produce a product or render a service (Bessant, Lamming, Noke & Phillips, 2005). In terms of family wine business in the present study, process innovation relates to investment in technology, equipment and advanced training.

'Product innovations' are new products or services introduced to meet external users' needs (Damanpour, 2010). For the present study, product innovation relates to new product development in relation to the broader South African wine industry. Although these respective innovation types were developed for multi-sectoral studies, they all apply in the context of the South African wine industry.

The research framework gives structure to this study and provides a structured manner to respond to the research objective. The results of the study are presented according to this structure. The following section discusses the problem statement, research aim and objectives of this study.

1.4. PROBLEM STATEMENT, RESEARCH AIM AND OBJECTIVES

1.4.1. Overview

Innovation is argued to be a necessary condition for continuity of family businesses (Bergfeld & Weber, 2011; Zahra, 2005) and may contribute to the long-term survival of a business (Leenen, 2005). This also applies to the wine industry, which specifically presents a unique balance between upholding tradition and driving innovation (Brundin & Wigren-Kristoferson, 2013; Vrontis et al., 2016). A marketplace that becomes more competitive, like the global wine industry (Van Rooyen et al., 2011), is likely to see increased interest in understanding the factors associated with innovation (Llach & Nordquist, 2010). According to Cufaude (2009: 32), a changing environment with associated opportunities and threats, requires innovative approaches to react and respond to the environment's changing nature.

Relationship issues have been identified as an important aspect to consider, when evaluating the sustainability of family businesses (Sharma, 2004; Tucker, 2011). In fact, Olson, Zuiker, Danes, Stafford, Heck and Duncan (2003) argued that good relationships can overcome bad business decisions, but the opposite is more difficult to achieve. Cassia, De Massis and Pizzurno (2012: 2913) highlighted conflict as a major issue in family business research, suggesting that the "mixture of blood and professional relationships" among group members impacts the decision-making processes in product and process innovation.

The intertwined nature of business and family in family businesses, could have significant implications in terms of conflict (Nicholson, 2008; Sciascia, Mazzola & Chirico, 2013). Furthermore, succession particularly yields unique circumstances that could affect conflict (Kellermanns & Eddleston, 2004; 2007).

1.4.2. Problem statement

Changes in the global wine industry (Sawis, 2014; 2017; 2018; Van Rooyen et al., 2011) have necessitated that wine businesses innovate to remain sustainable. The majority of these South African wineries are still family-owned (Brundin & Wigren-Kristoferson, 2013; Sawis, 2018). Therefore, the success of the wine industry is largely dependent on the success of family businesses, which highlights the importance of family influence in terms of innovation.

The South African wine industry is characterised by significant concentration and competitive conditions. As such, it creates conditions where the very existence of family businesses in this sector are under significant threat, which has already resulted in a significant decrease in the number of family-owned wine businesses (Sawis, 2017; 2018).

The balance between upholding tradition and driving innovation in wine businesses has recently become a common topic in business studies of family-owned wineries (e.g. Brundin & Wigren-Kristoferson, 2013; Vrontis et al., 2016; Stupino, Giacosa & Pollifroni, 2018). Gallucci and D'Amato

(2013: 196) posited that “the protection of typical and traditional winemaking is a fundamental aspect in order to preserve and strengthen the relationship between the wine and the family”. While the preservation of tradition is regarded a necessity by authors like Gallucci and D’Amato (2013), this role of family influence can also be viewed as an inhibitor of innovation. Family-owned wine businesses therefore face the challenge of upholding traditions associated with family-owned wine businesses, but still remaining innovative.

Unlike in other organisational forms, the effects of conflict on performance cannot be completely understood without taking into account the influence of the psychodynamic effects of family relationships in family businesses (Kellermanns & Eddleston, 2004). In order to ensure a vibrant wine industry and the successful continuation of family businesses, innovation is required to promote more competitive and sustainable businesses, even though family businesses are generally associated with conflict (Sciascia et al., 2013; Tucker, 2011).

1.4.3. Research aim

Thompson (2014) explained that the research aim is about what the researcher hopes to do – the overall intention in the project. The present study aimed to provide insights about how family businesses in the South African wine industry can improve their successful continuation through innovation, even though these businesses are generally associated with conflict.

1.4.4. Research objectives

The objectives of a study are the specific steps the researcher will take to achieve the research aim (Thompson, 2014). The primary objective of the present study was to contribute to the understanding of the moderating role of family influence, by investigating the relevance of family influence as a moderator of the relationship between conflict and innovation (refer to Section 1.4.5). This is supported by the secondary objectives, that investigated the relationships between family influence and conflict, as well as innovation. To achieve these objectives, a number of hypotheses were developed, based on a research framework. Each hypothesis is supported by literature (refer to Chapter 3).

1.4.5. Main hypotheses

The hypothesis that is investigated in this study is that family influence moderates the relationship between conflict and innovation. The following null hypothesis and alternative hypothesis were subsequently proposed:

Null Hypothesis (H0): Family influence does not moderate the relationship between conflict and innovation in family businesses.

Alternative Hypothesis (H1): Family influence moderates the relationship between conflict and innovation in family businesses.

1.4.6. Sub-hypotheses

Based on the research framework, sub-hypotheses were developed and presented in Appendix H. These sub-hypotheses relate to the present study's secondary objectives and investigate the relationships between the different dimensions of family influence, conflict and innovation – and specifically the moderating role of family influence on the relationship between conflict and innovation.

In order to respond to the proposed set of hypotheses, a large-scale survey was conducted among members of top management teams of family businesses in the South African wine industry. The following section provides an overview of the development and distribution of this research instrument.

1.5. RESEARCH DESIGN AND METHODOLOGY

This deductive, cross-sectional study followed a positivistic paradigm, involving quantitative methods. A large-scale survey was administered, using a questionnaire to obtain data from a large sample of the target population, which was statistically analysed. Both primary and secondary data sources were used. Refer to details in Chapter 4.

1.5.1. Primary data sources

The primary data source was a questionnaire based on the research framework (refer to Chapter 3). Existing, validated measures were adopted and, in some cases, adapted for this study. In order to further scrutinise the suitability of the respective measures, a panel of local experts (consisting of academics, consultants and senior practitioners) who have relevant and recent experience in wine industry family businesses, as well as questionnaire development, evaluated the suitability of the proposed questionnaire. The validity and reliability of these scales were subsequently thoroughly analysed (refer to Section 4.9). A pilot survey was also conducted to ensure that the online distribution process was functional and effectively captured the results. The steps taken to develop the research instrument are presented in Figure 1.2.

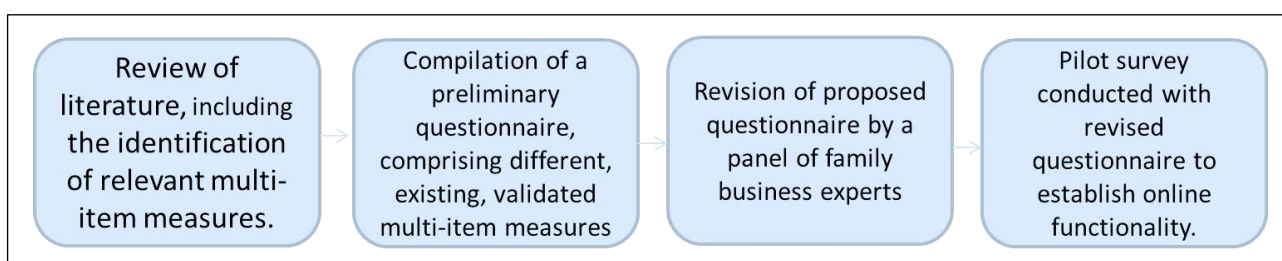


Figure 1.2: Research instrument development

Data was subsequently collected from the target population, namely top management teams of family businesses in the South African wine industry (refer to Section 4.3). The results of the online surveys were recorded through a website and the responses captured in spreadsheets on the same site. A link to the online questionnaire was distributed to potential respondents by targeted, emailed letters (refer to Appendix A and Appendix B).

1.5.2. Secondary data sources

A literature review was conducted in order to comprehend existing research about the respective facets of family influence and to identify suitable constructs of the family influence dimensions that were measured. The literature review provides an overview of the South African wine industry, as well as global family business research in the wine industry. This is followed by an overview of the field of family business research, encompassing prominent family business theories, i.e. agency theory, stewardship theory and socio-emotional wealth theory.

This is followed by a review of literature pertaining to the key components of this research study: family influence, innovation and conflict. The commonly-used and referenced F-PEC scale (Astrachan et al., 2002) was used as basis to present the dimensions of family influence. The socio-emotional wealth model (Gómez-Mejia et al., 2007; Gómez-Mejia, Makri & Larraza-Kintana, 2010) “suggests that family businesses are typically motivated by, and committed to, the preservation of their socio-emotional wealth, referring to non-financial aspects or ‘affective endowments’ of family owners” (Berrone, Cruz, Gómez-Mejia & Larraza-Kintana, 2012: 259). Therefore, dimensions of family essence that relate to family behaviour, were an important focus of this study and literature review. These aspects include family commitment and non-economic family goals.

The literature review outlines the impact of the different dimensions of family influence on conflict and innovation and motivates the proposed investigation into the role of family influence as a moderator of the relationship between conflict and innovation. The literature review is further supported by a separate framework chapter (Chapter 3), which discusses the development of each hypothesis, supported by scholarly literature.

1.6. OPERATIONAL DEFINITIONS OF KEY CONSTRUCTS

Existing scales to evaluate the different constructs of the study were adopted and, in some cases, adapted from literature. Similarly, definitions for the constructs were identified from literature and in some cases adapted for the present study. These operational definitions relate to the scales that were used in the research instrument. The operational definitions of the composite constructs of this study, as well as the sources from which they were adopted, are presented in Table 1.1. below.

Table 1.1: Operational definitions of composite constructs

Construct	Operational definition	Source
Family commitment	The family's collective intent to continue owning and operating the business, which compels family members towards a course of action. This relates to loyalty and support for the business, its values, goals, future and success.	Mahto, Davis, Pearce, and Robinson (2010)
Managerial innovation	New approaches to devise strategy and structure in the organisation, modify the organisation's management processes and motivate and reward its employees. This specifically relates to the management approach to innovation, as well as how innovation is motivated and rewarded.	Walker, Damanpour and Devece (2011)
Process innovation	New elements introduced into a business that change the way the organisation produces and delivers products and services. This relates to investment in technology, equipment and training of employees.	Bessant, Lamming, Noke and Phillips (2005)
Product innovation	New products or services introduced to meet external user needs. This relates to new product development in relation to competition and market requirements.	Damanpour (2010)
Task conflict	Controversy over the job or project that the family business is focusing on: Conflict pertaining to work related ideas and decisions.	Jehn, (1997); Simons and Peterson (2000)
Relationship conflict	Animosity surrounding interpersonal relationships among family members, pertaining to personalities and dispositions. This is characterised by animosity, tension and annoyance among team members.	Jehn, (1997); Simons and Peterson (2000)

1.7. STUDY POPULATION

The theoretically-defined study population for this study comprised family wine cellars in the South African wine industry. The global wine business has been described as a “complex and rich field to study a range of issues across all aspects of business management” (Orth, Lockshin & D’Hauteville, 2007: 6). The South African wine industry was selected as a suitable industry to study family businesses, since the majority of wine cellars and wine grape producing farms are family businesses (Brundin & Wigren-Kristoferson, 2013) and the researcher has significant professional experience in this sector. Gallucci and D’Amato (2013: 186) explained that family influence takes on unique meaning in the wine industry, because the product is strongly linked to the family, its history, experiences and the people who have handed down both the family name and the business (refer to Section 2.3).

The South African wine industry comprises 546 wineries and 3 323 grape producers (Sawis 2017), of which 472 are privately owned. The South African Wine Industry Directory (SAWID) 2015/16 was used as the source of contact details. This directory is compiled by VinPro and contains the contact detail of every registered wine-producing cellar in South Africa. The SAWID also provides information

about ownership. In the case of the present study, every winery that had a majority family ownership was considered for the present study. Due to every registered winery being listed in the directory, it can be assumed that every family-owned winery received the questionnaire and had an equal chance of participating in the survey (refer to Section 4.5).

The questionnaire included criteria of participation, based on scholarly literature regarding family businesses (refer to Section 4.4). In the present study, the units of analysis were family businesses, and data was collected through the answers provided by members of the management teams of the respective businesses. The questionnaires for this study were subsequently directed at the top management teams of the family businesses, attempting to obtain multiple respondents from each family business.

1.8. DATA ANALYSIS

The descriptive statistics of the data collected by the research instrument were presented (refer to Chapter 5). In order to respond to the research objectives, the relationships between the key constructs of the study were analysed (refer to Chapter 6). The reliability of the individual multi-item scales (refer to Section 4.9) was assessed by evaluating the Cronbach alpha coefficients. Construct validity was evaluated through a confirmatory factor analysis (CFA). Statistical techniques applied to evaluate the relationships between constructs included analysis of variance (ANOVA), moderator analyses and partial least square structural equation modelling (PLS-SEM).

1.9. SCOPE AND DELIMITATIONS

This study was limited to the South African wine industry and reflects the realities and dynamics of family businesses in this specific sector. Because the sample was less heterogeneous than would be the case for a cross-sector study, potential sectoral differences that could influence results were not a concern.

Non-wine-related family business matters, such as family commitment, non-economic family goals and, family conflict and innovation, were investigated in the study. The research framework, questionnaire and model can therefore be replicated in other industries or regions. This study was a cross-sectional study, which provides a snapshot of researched phenomena at one specific time.

The respondents in this study were members of the top management teams of family businesses. Results therefore reflect the views of top management, which could differ from other employees within an organisation. Furthermore, the units of analysis of the present study were family businesses. Details about the specific management team members were subsequently limited.

This study primarily comprised quantitative methods to determine relationships and potential moderating effects between key constructs. However, conflict and commitment are emotional and personal matters and therefore further qualitative research is encouraged to gain additional insights into the relationships and trends identified.

Lastly, the study specifically investigated relationships and moderating effects of family influence in terms of conflict and innovation. The specialised field of conflict resolution and management falls outside the scope of this study.

1.10. DISSERTATION STRUCTURE

The present study is organised in seven chapters.

Chapter 1 provides a brief overview of the study and research activities involved. The background of the study and conceptual framework, as well as the problem statement, research aim and objectives are introduced. This chapter also comprises a brief summary of the research methodology, operational definitions of key constructs, study population, data analysis, as well as scope and delimitations.

Chapter 2 offers a review of the body of literature related to family business, innovation and conflict. It starts by focusing on the South African wine industry, as well as existing family business research in the global wine industry. The second section provides an overview of the field of family research, including prominent family research theories and an overview of the definition of a family business. The key dimensions of this study, family influence, innovation and conflict, are discussed.

Chapter 3 presents a conceptual framework that was developed for empirically investigating the role of family influence in conflict and innovation in South African wine industry family businesses. The different constructs and measurement items are motivated. A theoretical framework is developed to provide structure to evaluate the relationships between the different constructs. The development of the hypotheses is clearly explained, supported by literature.

Chapter 4 provides an explanation of the research design and methodology utilised as part of the primary research of the study. It provides the procedural framework within which the research was conducted, as well as the process that the researcher followed to produce a suitable research instrument. This chapter explores the research methods and design that were adopted for this study. It details the process followed to design and distribute a research instrument to measure the relevant attributes of family influence, organisational conflict and innovation. The validity and reliability of the constructs utilised are then discussed.

Chapter 5 defines and describes the research data collected by the research instrument and reports the descriptive statistics. The chapter starts with a description of the respondents who represented family businesses. This is followed by the descriptive statistics of the participating businesses. An overview of the results obtained through the research instrument is subsequently presented.

Chapter 6 utilises inferential statistics to make interpretations concerning some unknown aspects of a population. The different dimensions of family influence identified from literature are related to innovation and conflict, in terms of correlations and moderating effects. The chapter concludes with

the partial least squares structural equation model (PLS-SEM), which provides further robustness to the tested hypotheses.

Chapter 7 offers interpretations of the research results, based on the empirical findings as described in the preceding chapters, postulated in conjunction with the theory presented in the literature review. The chapter starts with an overview of the study, key literature and the study methods applied. This is followed by an overview of the results, based on the research framework and a synopsis of key findings and implications to the South African wine industry. This section discusses how the objectives of this study are met. Practical recommendations are provided for family businesses in the South African wine industry. Limitations are noted and opportunities for future research are highlighted.

1.11. SUMMARY

Chapter 1 has provided a background to the study, highlighting the conceptual framework, research objectives and hypotheses. The proposed research design and methodology, as well as statistical techniques applied were presented. The population, scope and delimitation of the study have been summarised. The chapter concludes with a framework and structure of the dissertation. The following chapter reviews the body of theory related to family business, innovation and conflict.

CHAPTER 2

LITERATURE REVIEW

2.1. INTRODUCTION

Family businesses make up about two-thirds of all businesses globally (Family Firm Institute, 2016) and more than 60 percent of all European companies (European Family Businesses, 2013). The number of family businesses in Africa is less clear, although Gibson (2002: 68) and Kim, Kandemir and Cavusgil (2004) argued that family businesses have become particularly important in emerging-market economies. The majority of South African wine businesses are family-owned (Brundin & Wigren-Kristoferson, 2013). This industry has shown innovation and significant improvement in terms of wine quality and ranges (Wood & Kaplan, 2007).

This chapter provides a review of literature pertaining to the key constructs of this study, namely: family influence, innovation and conflict. The first section of the chapter provides an overview of the South African wine industry as well as the overlap of family business and wine industry research. This is followed by an overview of the family business research field, including dominant family business theories. The rest of the chapter is structured to provide a more detailed discussion of the key components of this study: family influence, innovation and conflict.

2.2. OVERVIEW OF THE SOUTH AFRICAN WINE INDUSTRY

The wine industry is a dominant sector in South Africa (Brundin & Wigren-Kristoferson, 2013) and particularly in the Western Cape, where the majority of vineyards are planted and cellars are based (Brundin & Wigren-Kristoferson, 2013; Sawis, 2017). The industry dates back to 1655, when the first vineyards were planted, as documented by Jan van Riebeeck from the Dutch East India Company (Estreicher, 2014). The South African wine industry has grown significantly and is now the 8th largest producer of wine globally. The latest macro-economic impact study commissioned by South African Wine Information and Systems (Sawis), indicated that this industry supports employment opportunities to more than 289 000 individuals and contributed R36 145 million or 1.2 percent of the total gross domestic product of South Africa in 2013 (Sawis, 2014).

According to Brundin and Wigren-Kristoferson (2013: 432), the abolition of *Apartheid* in 1994 and the subsequent economic reform have fundamentally changed the wine farming industry, particularly because new players and constellations have entered the scene, introducing “new ways of viewing society and the ensuing novel regulations and practices”. By 1997, the industry was fully deregulated and previous systems that governed the industry, including quota allocations and administrative pricing schemes had been removed (Van Rooyen et al., 2011). According to Van Rooyen et al. (2011: 187), international sales of South African wines increased from 20 million litres in 1992 to over 72.8 million litres in 1995. Exports further increased phenomenally up to 217 million litres in 2002 and to 448 million litres in 2013 (Sawis, 2017).

A recent annual statistics report indicated that 51.0 percent of South African wine was exported in 2018, with the United Kingdom (UK), Germany and The Netherlands as the top markets for packaged wines (Sawis, 2018). The South African domestic wine market has recently seen a revival, but South Africa's per capita wine consumption of 7.47 litres per year (Sawis, 2018) is still among the lowest of wine-producing countries.

According to Van Rooyen et al. (2011), the South African wine industry's competitiveness has had a negative trend since 2006, after the definite positive trend in competitiveness which started in 1990. These authors cited reasons for this downturn as the world economic slowdown, declining levels of wine consumption, sustained international strengthening in the value of the local currency, global warming/drought conditions and climatic fluctuations, increases in interest rates, lack of infrastructure maintenance and export facilities, lack of skilled labour, and government's inability to provide sufficient regulatory, certification and support services. Estreicher (2014: 531) also noted that the sharp increase in foreign investment of the early 1990s largely diminished.

There has been a steady decline in the total number of privately-owned wineries in South Africa, from a peak of 524 in 2009 to 468 in 2018 (Sawis, 2018). Most of these wineries are based in Stellenbosch (168) and Paarl (111). The total number of producer or wholesale cellars, which account for the rest of the total cellars, has been more stable. The total area planted to vines declined from more than 100 000 hectares of vines in 2006 to 93 021 in 2016 (Sawis, 2018). This declining situation is compounded by lack of profitability, as VinPro indicated that only one-third of primary wine grape producers were profitable (Van Niekerk, 2016).

Changes in the global wine industry have clearly necessitated that wine businesses innovate to remain sustainable. The majority of these South African wineries are still family-owned (Brundin & Wigren-Kristoferson, 2013). Therefore, the success of the wine industry is largely dependent on the success of family businesses, which highlights the importance of family influence in terms of innovation. It can subsequently be stated that the South African wine industry is characterised by significant concentration and competitive conditions. As such, it creates conditions where the very existence of family businesses in this sector are under significant threat, which has already resulted in a significant decrease in the number of family-owned wine businesses. In order to ensure a vibrant wine industry and the continuation of family businesses as core elements in this particular context, innovation is required to promote more competitive and sustainable businesses.

2.3. FAMILY BUSINESS RESEARCH AND THE WINE INDUSTRY

The wine industry has been a popular sector for business studies, with Orth et al. (2007: 6) stating that the "global wine business provides a complex and rich field to study a range of issues across all aspects of business management". This also applies to family business research, with wine industry research topics including innovation (Gilinsky, Santini, Lazzeretti & Eyer, 2008), social capital (Salvato & Melin, 2008) and organisational culture (Chirico & Nordqvist, 2010).

The academic field of wine business and management has expanded to include numerous sub-disciplines, including organisational behaviour and family business management (Orth et al., 2007). Family business studies are also relevant in the South African context. Brundin and Wigren-Kristoferson (2013) suggested that family traditions are of great importance in South Africa, because of the age of the industry and the majority being family businesses. A study by Pavel (2013) demonstrated that the wine industry is an intensive-knowledge industry, that requires a constellation of specific vineyard and winery management competencies. These authors (Brundin & Wigren-Kristoferson, 2013; Pavel, 2013) argued that family members are consequently more suitable successors than external applicants.

A key focus in the field of family business studies in the wine industry entails the impact that family influence has on family-owned wine businesses (Bresciani, Giacosa, Broccardo & Classo, 2016). In a study that investigated the influence of family power on Italian wine businesses, Gallucci and D'Amato (2013: 186) explained that family influence takes on unique meaning in the wine industry, because the product is strongly linked to the family, its history, experiences and the people who have handed down both the family name and the business. This relationship between the family and their product has been described as valuable in terms of market reputation (Gallucci & Nave, 2012).

Gallucci and D'Amato (2013: 196) posited that "the protection of typical and traditional winemaking is a fundamental aspect in order to preserve and strengthen the relationship between the wine and the family". While the preservation of tradition is regarded a necessity by authors like Gallucci and D'Amato (2013), this role of family influence can also be viewed as an inhibitor of innovation. However, New World wine-producing regions (including Australia, New Zealand and California), are associated with a stronger marketing-oriented approach and standardised products capable of satisfying the tastes of global consumers are more prevalent (Mattiacci & Maralli, 2007). Although South Africa is generally recognised as a New World wine-producing region, industry commentators argue that South Africa presents a unique combination of New World and Old World attributes (Pretorius, 2018) and it can be argued that the balance between innovation and tradition is amplified in South Africa.

The balance between upholding tradition and driving innovation in wine businesses has recently become a common topic in wine family business studies (e.g. Brundin & Wigren-Kristoferson, 2013; Vrontis et al., 2016). The focus on this balance was compounded by difficulties such as the recent financial crisis and decreasing consumption in traditional wine markets, which necessitate new approaches to tradition and innovation (Vrontis et al., 2016).

Winemaking globally has had a renaissance where science and technology has advanced the traditionally practice-based industry, and knowledge has increased considerably through formal education (Johnson & Robinson, 2007). A New Zealand wine industry study by Woodfield and Husted (2017) highlighted the importance of bi-directional, inter-generational knowledge sharing in the wine industry. These authors suggested that the next generation brings a valuable knowledge

base to the family business through formal training or work experience. This knowledge base is different from the one held by the senior generation as it draws more extensively on explicit knowledge acquired through tertiary education combined with tacit knowledge acquired from vocational activities outside the family firm. Farinelli (2012) noted that incremental process innovation through the application of tacit knowledge is a particularly important source of innovation in the wine industry.

The tradition-innovation balance is also relevant in South Africa, with Brundin and Wigren-Kristoferson, (2013) suggesting that the industry is currently being subjected to many changes, which have led to both increased market opportunities and competitive challenges and require new entrepreneurial practices to succeed.

While tradition and heritage are particularly relevant in Old World wine-producing regions (referring to traditional, European wine-producing regions like France, Italy and Spain), not all family businesses in the wine industry are old. An Australian study by Dibrell, Craig, Moores, Johnson and Davis (2009) investigated the role of family resources in the survival of start-up wineries. These authors specifically studied the wine industry, because there was an increase in smaller, entrepreneurial wineries that benefitted from changes in the industry, which included “an oversupply of quality grapes that have reduced the competitive entry barriers for start-up wineries to enter the industry and start producing wine immediately”. These conditions are not dissimilar in South Africa, where new start-up wineries are also prevalent, despite the decrease in total number of wineries (Heyns, 2014).

Morton and Podolny (2002) identified evidence that owners present strong non-financial motivation in the Californian wine industry for operating family businesses, which particularly relates to the key aspect of non-economic family goals in the present study. Morton and Podolny (2002) posited that some owners have less concern for financial return and are particularly motivated by the status associated with higher prices for their wine, as well as premium quality. These motivations could be associated with two of the non-economic goals measured by the present study, namely: family identity and social status. However, the present study also investigated aspects that are less status-related, including harmony and socio-economic factors, such as job creation for the next generation and community contribution (refer Sections 2.6.2 and 2.6.3).

A study of the Californian and Italian wine industries suggested that family influence was seen as an important element of differentiation and that the role of the family was reflected both in terms of production and branding (Gilinsky et al., 2008). It could therefore be argued that the role of family influence could be particularly important in the wine industry, compared to industries that are less closely related to the tradition and role of the family.

A Spanish wine industry study by Soler, Gemar and Guerrero-Murillo (2017) provides evidence which suggests that family-owned wine businesses are more efficient, with greater profit margins.

The higher profit margins are ascribed to the preference of these businesses for higher-quality products and due to the better acceptance of brands of family wineries.

Research in the wine industry has suggested that there are diverse views about the innovativeness of the wine industry, with descriptions of the industry varying from “dynamic” (Chirico & Nordqvist, 2010: 8) to “traditional” (Salvato & Melin, 2008). The present study adopted the view of Gilinsky et al. (2008: 302) that in general, the wine industry experienced a slow evolution, but that recently some players have pursued innovative strategies. Wood and Kaplan (2007) confirmed that the increase in wine innovation also applies in South Africa. It could therefore be argued that different levels of innovation exist in the wine industry, making it a suitable sector to study determinants of innovation, or in this case, moderators of innovation. The existing body of knowledge suggests that the wine industry provides unique opportunities to study family businesses. This is not only in terms of the high incidence of family businesses in this sector (Brundin & Wigren-Kristoferson, 2013), but also in terms of the relevance of family influence in these businesses (Gilinsky et al., 2008; Morton & Podolny, 2002;).

2.4. THE FIELD OF FAMILY BUSINESS RESEARCH

2.4.1. Overview

Family business research has developed significantly in terms of maturity (Gedajlovic, Carney, Chrisman & Kellermanns, 2012) and complexity (Bird, Welsch, Astrachan, & Pistrui, 2002: 346) with the number of family business publications increasing exponentially since 2000, accelerating in recent years (Xi, Kraus, Filser & Kellermanns, 2015). Research on family business has attracted a diverse global base of research participants (Astrachan & Pieper, 2010) and is now regularly published in top-tier journals across different academic fields (Gedajlovic et al., 2012), including entrepreneurship, management and economics. The field of family business has attracted researchers because the “unique interaction between family and business” provides a unique context for studying organisational phenomena (Xi et al., 2015: 115).

With the development of family business as research field, theoretical rigour followed (Chrisman et al., 2005; Chrisman, Steier, & Chua, 2008), in terms of proposed paradigms for characteristics or behaviours that were idiosyncratic to family businesses. Some of the more pertinent management theories applied were agency theory (Eisenhardt, 1989; Jensen & Meckling, 1976; Schulze, Lubatkin, Dino, & Buchholz, 2001), stewardship theory (Miller & Le Breton-Miller, 2006; Westhead & Howorth, 2006), as well as taking a resource-based view of the business (Habbershon & Williams, 1999; Habbershon et al., 2003). The socio-emotional wealth model (Gómez-Mejía et al., 2007; Gómez-Mejía et al., 2010; Gómez-Mejía, Cruz, Berrone, & De Castro, 2011) was introduced as a specific theoretical formulation within the family business field.

The present study aims to contribute to the scholarly knowledge of the distinctive role of family businesses as far as innovation is concerned. To provide a solid foundation and understanding of

the influence of family business, the following section discusses some of the fundamental theories that underpin family business research and the hypotheses set out in this study. Each family business theory will subsequently be related to the present study. This section is concluded with a discussion of definitions of family businesses.

2.4.1.1. Agency theory

Behavioural agency theory (Eisenhardt, 1989; Jensen & Meckling, 1976) implies individual-goal behaviour by managers and employees. According to agency theory, managers' actions and decisions are motivated by self-interest and agency costs are incurred to monitor and ensure goal alignment between managers and owners. Jensen and Meckling (1976) suggested that the separation of ownership and management creates conflicting goals between principals (i.e., shareholders) and agents (i.e. managers). In terms of family businesses, agency theorists generally believe that a business that is both owned and managed by family members has a more efficient governance structure (Dyer, 2010; Schulze, Lubatkin & Dino, 2002; 2003).

Dyer (2010) explained that agency considerations could lead to savings in family businesses because the goals of a business's owners are aligned with its managers, since they are typically one and the same. Costs are therefore said to be reduced, because owners do not need to invest in appraisal or incentive systems, since managers will naturally work to maximise shareholder wealth. Trevinyo-Rodriguez and Tapies (2010: 3) shared this view, arguing that family businesses have a certain advantage in the "competitive non-sharing issue", since all owning members (usually from the family) earn their living from the same source: their business. These authors further built on their argument by stating that, in general, family business owners are inclined to teach next generation members everything they know about the business, since the objective is that their children continue with it and build on it. The founder wants to teach his family members how to learn more effectively than their competitors, in order to improve the family business's chances of survival. The teaching of the next generation relates to the experience and generational overlaps aspects of family influence investigated in the present study (refer to Sections 2.5.1 and 2.5.2).

According to Trevinyo-Rodriguez and Tapies (2010: 4), in non-family organisations, effective learning may not happen, because of the higher staff turnover. Trevinyo-Rodriguez and Tapies (2010) cited Rogers and Shoemaker's (1971) research about one of the obvious principles of human communication: that ideas are transferred most frequently between a source and a receiver who are alike or homophilous. Trevinyo-Rodriguez and Tapies (2010) stated that if 'homophily' is considered to mean the degree to which pairs of individuals who interact are similar in certain attributes, such as beliefs, values and education, there is supposed to be a better understanding, disposition and commitment between family members than between non-family members, because communication is easier.

However, some authors argue that family businesses do not necessarily enjoy agency advantages compared to non-family businesses. For example, Schulze et al. (2003) stated that the majority of US family businesses offer employed family members short- and long-term performance-based incentive pay, adding that family ownership does not appear to represent the kind of governance solution that is often attributed to owner-management by agency theorists. These researchers argued that family-owned and family-managed businesses appear to experience agency problems that can even be very costly to mitigate.

Dyer (2010) explained that family businesses are infamous for conflict and that family members may have competing goals and values, which may arise from complex conflicts and family dynamics that stem from a family's psychosocial history. Another reason cited by Dyer (2010) is that family businesses may not realise reduced agency costs due to nepotism problems. Nepotism makes it difficult for families to effectively monitor family members who work in the business. Similarly, they have difficulty disciplining, and particularly firing, incompetent family members because of the repercussions in the family. Dyer (2010) concluded that family owners, due to nepotism, are unwilling to monitor and discipline their relatives until it is almost too late to turn the business around. Miller, Wright, Breton-Miller and Scholes (2015) posited that the capability of a family business to innovate may be hobbled by weak managers selected through nepotism.

A study by Schulze et al. (2003) hypothesised that the nature of agency relationships in family businesses is influenced by the past and ongoing parent-child relationships and therefore is characterised by altruism. Altruism, or selflessness, effectively makes each family member employed by the family business an owner of the business in the sense that each acts in the belief that they have a residual claim on the family's estate. According to Schulze et al. (2003), altruism should increase communication and cooperation within the family business, thereby reducing information asymmetries among family agents and increase their use of informal agreements. Altruism should also create a raised sense of interdependence among family agents, since employment links their welfare directly to business performance.

Patel and Fiet (2011) supported this argument, suggesting that greater reciprocal altruism in family businesses results in an unselfish concern and devotion to others, without an expected return. The primary effect of this is a strong sense of identification and a high value commitment towards the business (refer to Section 2.6.2). Schulze et al. (2002) posited that altruism promotes a governance system that is particularly efficient during the uncertain times of start-up, when the nascent business faces imperfect capital and labour markets. These scholars suggested that altruism allows family businesses to leverage their human resources, including their external social capital, such as personal contacts and personal savings, while possibly minimising the need to incur agency costs.

However, altruism, can also have negative consequences that result from family members who do not monitor each other, resulting in opportunism, shirking and adverse selection, as noted by Dyer (2006: 259). An article by Karra, Tracey and Phillips (2006) examined the relationship between

altruism and agency costs in family businesses, suggesting that in the early stages of a family business life cycle, altruism aligned the interests of family members and reduced agency costs. They found, though, that there were limits to altruism and agency costs increased as the family business became larger and more mature. They further observed the moral hazard in which family employees and owners began to shirk, free ride, and abuse perks (Karra et al., 2006).

Building on this research, Habbershon (2006: 885) presented an organisational life cycle framework for managing family influence (referred to as ‘familiness’ and ‘agency’) as the family and business move through time. He posited that early in the organisational life cycle, businesses may find an advantage in a more unbounded familial culture where the owner-manager leadership and altruistic commitments are strongly family oriented. However, as the family and organisation grow and become more complex, there are diminishing returns from the unbounded family influence, leading to increased agency costs, as presented in Figure 2.1.

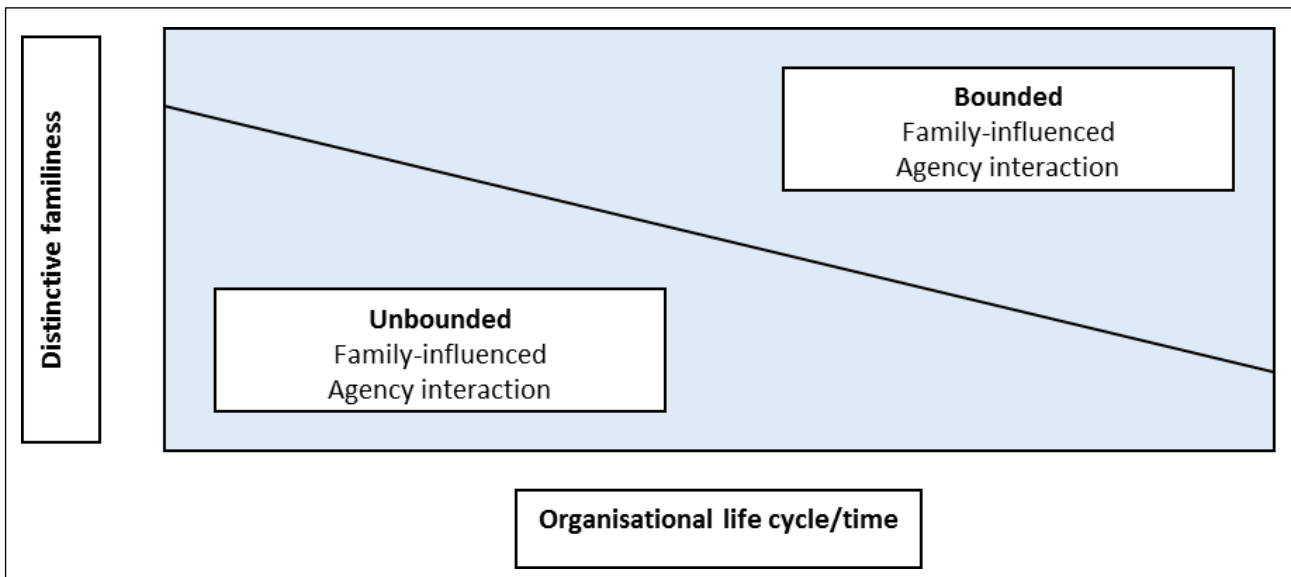


Figure 2.1: Bounded and unbounded familiness

Source: Habbershon, 2006: 884.

Habbershon (2006) argued that operationalising the bounded/unbounded framework takes family agency research beyond the dichotomous debate concerning agency research, with this framework recognising that family business agency cost can be lower or higher, depending on the organisational circumstances.

De Massis, Kotlar, Mazzola, Minola and Sciascia (2018) theorised that family owners' inner conflicts between economic and non-economic goals lead to competing preferences in the allocation of financial resources. Accordingly, the findings of these authors suggested that self-control is a separate source of agency costs in family businesses.

As illustrated in this section, agency theory has been utilised to explain and investigate the role of family influence in terms of governance, incentives, cooperation and communication (Schulze et al.,

2003). The impact of agency theory is dependent on aspects like goal alignment, comprising shared values and world views. These variables have led to frameworks and approaches that take into account that the impact of agency does vary between businesses and is also impacted by aspects like organisational life cycles (Habbershon, 2006; Karra et al., 2006). Negative considerations often associated with family businesses, such as nepotism and conflict (Dyer, 2010), could negate potential gains, such as reduced agency cost.

Agency theory suggests that businesses that are both owned and managed by family members have a more efficient governance structure (Dyer, 2010; Schulze et al., 2002; 2003), based on the alignment of goals, since all owning members earn their living from the same source: their business (Dyer, 2010; Efendy, Zolin & Chang, 2013; Trevinyo-Rodriguez & Tapies, 2010). In terms of the present study, agency theory specifically relates to the measured aspect of goal alignment. If goals are indeed aligned, family businesses are expected to have lower levels of conflict. In terms of tacit knowledge transfer, higher levels of information sharing, ascribed to agency theory (Trevinyo-Rodriguez & Tapies, 2010: 3), are expected to result in higher levels of innovation (Woodfield & Husted, 2017).

Lastly, greater reciprocal altruism in family businesses and the resulting unselfish concern and devotion to others is argued to lead to a strong sense of identification and a high value commitment towards the business (Patel & Fiet, 2011). Altruism could therefore also influence family commitment, which is argued in the present study to moderate the relationship between conflict and innovation (refer to Sections 2.6.2 and 3.5.6).

2.4.1.2. Stewardship theory

Compared to agency theory, stewardship theory applies when managers, or owners, do not act in their self-interest, but in the interest of the business (Davis, Schoorman & Donaldson, 1997). Stewardship theory advocates that managers do not always seek to accomplish their own individual goals, but rather act as stewards of the business. Stewardship theory is applicable when family business leaders choose goals based not on the leaders' self-interest but based on what is best for family members or what is best for the entire open family business system (Westhead & Howorth, 2006). Bammens, Van Gils and Voordeckers (2010: 182) defined a stewardship culture as one that "reflects and endorses the basic belief that organisational members are inclined to integrate themselves into the larger organisation (social integration) and to internalise organisational demands into a unified sense of self (psychological integration), and have a propensity towards psychological growth". Stewards are intrinsically motivated by altruistic motives to act for the collective good of their business and identify with the organisation, embrace its objectives and are committed to making it successful, even at the cost of personal sacrifice (Davis, Schoorman, Mayer, & Tan, 2000). Stewardship attitudes are especially prevalent among family businesses in which the managers are either family members or are emotionally linked to the family. Such managers are often deeply

committed to the goals of the business and are motivated to do their best on behalf of the owning family and the organisational collective (Miller & Breton-Miller, 2006).

According to Corbetta and Salvato (2004), stewardship in family businesses, is typically associated with conditions that include commitment to the business and shared values between the family and the business. High levels of shared commitment to the business can increase the sense of mutual interdependence, reciprocal altruism and promote pro-organisational helping behaviours supportive of long-term organisational goals (Eddleston, Kellermanns & Sarathy, 2008). A stewardship orientation can also lead a business to emphasise long-term rather than short-term financial performance (Davis et al., 1997).

Bammens et al. (2010) argued that family businesses may be characterised by a stronger innovation-supportive stewardship culture, adding that the social conditions in early generation family businesses contribute to organisational members' psychological need for relatedness, which enhances autonomy, trust and collectivism. Stewardship theory's cooperative behaviour is generally viewed in a more positive light than agency theory and is posited to positively contribute to business performance (Gómez-Mejía et al., 2007; Tosi, Brownlee, Silva & Katz, 2003).

Chia-Jung, Cheng-Yu and Hsueh-Liang (2017) described a manager's stewardship orientation through three dimensions (decision comprehensiveness, participative governance and long-term orientation) based on key literature on stewardship theory (Corbetta & Salvato, 2004; Eddleston, Kellermanns & Zellweger, 2012; Miller et al., 2008).

In terms of decision comprehensiveness Chia-Jung et al. (2017) posited that, based on the underlying arguments of stewardship theory, managers are motivated to be more diligent in comprehensively evaluating strategic decisions (Eddleston et al., 2012). This allows team members to evaluate tasks with pre-existing knowledge, multiple approaches, various courses of action and numerous decision-related criteria. By considering as many alternatives as possible, team members have a chance to challenge and oppose one another on task issues (Chia-Jung et al., 2017) As a result, comprehensive decision-making can help organisations to foster creativity and broaden the scope of existing activities, benefitting innovation.

Chia-Jung et al. (2017) suggested that stewardship theorists advocate participation and empowerment, as opposed to monitoring and control (Davis et al., 1997). Team members are therefore willing to participate in the decision-making process and provide unique perspectives (Davis & Harveston, 2000) and prevent family businesses of becoming rigid (Sirmon, Arregle, Hitt, & Webb, 2008).

Citing Davis et al. (1997) and Miller et al. (2008), Chia-Jung et al. (2017) suggested that long-term orientation is a key component of a stewardship perspective. Stewardship-oriented managers are expected to set aside the pursuit of short-term gains for the long-term well-being of the business and consider a longer time horizon, dedicating resources required for innovation and risk taking (Zahra

et al., 2004). Miller and Le Breton-Miller (2006) support stewardship-based innovation, suggesting that stewardship over the longevity of the family firm can enhance research and development, the development of new product offerings and the pursuit of new markets.

In the present study, stewardship is argued to be associated with higher levels of innovation, supported by the suggestion of Bammens et al. (2010) that family businesses are characterised by a stronger innovation-supportive stewardship culture. Stewardship is associated with high levels of shared commitment to the business, which is argued to result in mutual interdependence, reciprocal altruism and pro-organisational helping behaviours, supportive of long-term organisational goals (Eddleston et al., 2008). It can be argued that this long-term view results in less pressure for short-term paybacks and more attention to ensure the longevity of the business (Bertrand & Schoar, 2006), which could specifically benefit innovation (Cassia et al., 2012).

2.4.1.3. Socio-emotional wealth

Unlike agency and stewardship theories, which are general management theories applied to family business research, socio-emotional wealth is a theoretical model that was established within the family business research field, albeit rooted in these general management theories. According to Berrone et al. (2012: 259), the “socio-emotional wealth model suggests that family businesses are typically motivated by, and committed to, the preservation of their socio-emotional wealth, referring to non-financial aspects or ‘affective endowments’ of family owners”. These authors highlighted that socio-emotional wealth priorities include the desire for family control and influence, identification of family members with the business, preserving binding social ties among family members, emotional attachment of family members and dynastic succession. Family owners with intrafamily succession intention are more motivated to accumulate or preserve socio-emotional wealth (Li, Au, He & Song, 2015).

Berrone et al. (2010) and Gómez-Mejía et al. (2007) have suggested that the influence of socio-emotional wealth varies among family businesses, but it has been a prominent analytical lens for interpreting family phenomena (Berrone et al., 2012). Examples of aspects that have been examined or interpreted through this lens include independent ownership (Gómez-Mejía et al., 2007), diversification and risk adversity (Gómez-Mejía et al. 2010; Gómez-Mejía, Hoskisson, Makri, Sirmon & Campbell, 2011), a linkage between non-economic goals and family business behaviour (Zellweger, Kellermanns, Chrisman & Chua, 2012), as well as the decision to adopt socially-responsible initiatives (Cruz, Larraza-Kintana, Garcés-Galdeano & Berrone, 2014).

Socio-emotional wealth has also been studied in terms of the innovativeness of businesses. Citing Gómez-Mejía et al. (2007) and Gómez-Mejía, Cruz et al. (2011), Kraiczy, Hack and Kellermanns (2015) posited that research investigating the innovativeness of family businesses has often applied a risk-oriented perspective by identifying socio-emotional wealth as the main reference that determines business behaviour. From a socio-emotional wealth perspective, research has shown

the propensity of family businesses to protect their socio-emotional wealth in ways that could potentially impact the way that these businesses innovate. Key examples include less diversification (Gómez-Mejía et al., 2010) and significantly increased research and development (R&D) investments when socio-economic wealth is at risk (Chrisman & Patel, 2012) and higher risk adversity and lower innovativeness when socio-emotional wealth is not at risk (Kotlar & De Massis, 2013).

In a study that investigated new technology adoption by family businesses, Souder et al. (2016) found that multiple dimensions of socio-emotional wealth contribute to complex effects within different types of family business. They provided evidence of greater reluctance towards new technology adoption among businesses with lower family influence than higher family influence. Current scholars have therefore provided evidence that socio-emotional wealth influences the innovativeness of family businesses. For a discussion of innovation in family business, refer to Section 2.8.

Le Breton-Miller and Miller (2013) suggested that socio-emotional wealth priorities change over the life cycle of family businesses and are affected by life-stage specific considerations, including conflict, the number of family members involved, business demographics and ownership. These authors' study specifically focused on the evolution of socio-economic wealth and how this affects board compositions and business survival. The role of aspects like conflict and family members involved in management in this evolutionary process could suggest that socio-emotional wealth could be moderated by other family-related matters, including conflict. As one of the key aspects of this study, the influence of conflict could therefore also be evaluated from a socio-emotional wealth perspective.

This section provides evidence from literature that socio-economic wealth theory influences innovation in terms of research and development (R&D) investments (Chrisman & Patel, 2012), diversification (Gómez-Mejía et al., 2010), risk adversity (Kotlar & De Massis, 2013) and new technology adoption by family businesses (Souder et al., 2016). It could be argued that the risk-adversity ascribed to socio-economic wealth is influenced by an unwillingness to make changes to the business, for fear that doing so will upset the dynamics of the family, resulting in conflict (Pieper, Astrachan & Manners, 2013).

Filser, Rigtering, Harms, Kraus and Chang (2018) posited that family firm innovativeness can be determined by the family's propensity to preserve socio-emotional wealth emotional attachment, and renewal of family bonds exert a significant influence on family firm innovativeness. It could be argued that family members with strong emotional attachment to the firm tend to feel more responsible and committed to the firm and its long-term success, which outweigh the potential risks of innovation, including the risk of business failure due to unsuccessful innovations. Mixed findings have been reported on the influence of socio-emotional wealth on innovation in family businesses. Family influence has been associated with risk aversion that prohibits making risky decisions with respect

to innovation (Gómez-Mejía et al., 2007). However, other authors have reported that socio-emotional wealth can result in the tendency to embrace a long-term orientation (Le Breton-Miller & Miller 2006). Gast, Filser et al. (2018) suggested that, when there is a close link between the identity of the family and the business, any innovation-related decision may be framed in a long-term perspective. The authors urged family businesses to invest in innovation to remain competitive and to retain positive identity endowments from the firm in the long run. This recent study by Gast et al. (2018: 62) provided evidence that innovativeness does not depend on a single dimension of socio-economic wealth, but instead depends on how the different aspects of socio-economic wealth “interact and complement each other to create innovativeness”, suggesting that different ways in which family owners may derive affective value from their socio-economic wealth can lead to high levels of innovativeness.

Kosmidou and Ahuja (2019) highlighted that researchers have distinguished between internal and external socio-emotional wealth (Cruz et al., 2014; Vardaman & Gondo, 2014). External socio-emotional wealth of family businesses captures a family’s desire to have positive recognition (reputation and image) whereas, internal socio-emotional wealth refers to a family’s need to maintain family continuity and control (Vardaman & Gondo, 2014). Family prominence is considered external socio-emotional wealth, whereas family continuity and family enrichment are considered internal socio-emotional wealth. The study by Kosmidou and Ahuja (2019) found that low levels of external socio-economic wealth coupled with high levels of internal socio-economic wealth lead to the absence of high family firm innovation.

2.4.2. Defining family businesses

Varying degrees of family involvement in the family businesses have arguably contributed to the questioning of the homogeneity of family businesses (Sharma, 2004). In order to cogently discuss the influence of family on family businesses, definitions of family businesses are discussed in this section and a definition for family businesses for the present study is provided.

In 1989, Handler (1989: 258) noted that, “defining the family firm is the first and most obvious challenge facing family business researchers”. Yet, recently Steiger, Duller and Hiebl (2015) still argued that there is no consensus in sight in terms of a globally-accepted definition of family businesses. These authors concluded that there are three main approaches to defining family businesses. These approaches are explained in Table 2.1.

In an attempt to better understand the use of family business definitions, Steiger et al. (2015) analysed 238 articles in terms of the definition used for family business. Most studies (44%) used a COI-based approach, followed by a combination of COI and essence measurements.

One argument that supports the use of several definitions is that different configurations of family businesses can be studied (Duh, 2010). In terms of explaining the differences between family and non-family businesses, including innovation, underlying theories of family business have been applied – such as agency theory and socio-emotional wealth (Duh, 2010). The lack of a clear and

accepted definition, however, can make comparative studies difficult in terms of research sampling (Handler, 1989).

Table 2.1: Approaches to defining family businesses

Approach	Primary measurement and considerations
Components-of-involvement (COI)	A family's involvement in the company (Zellweger, Eddleston & Kellermanns, 2010), which is measured by its influence on the business through: <ul style="list-style-type: none"> • Ownership and • Management control.
Family essence	<ul style="list-style-type: none"> • Whether a family business exhibits typical family business behaviours; and • Whether the family members consider the company to be a family business; and • Whether they wish to retain this status (Chrisman et al., 2005).
F-PEC scale	Combines elements of the COI and essence approaches (Astrachan et al., 2002). The F-PEC scale consists of three dimensions for measuring a family's influence on the decisions and behaviour in a company: <ul style="list-style-type: none"> • Power; • Experience; and • Culture.

Source: Steiger et al., 2015.

In line with the most commonly-used definition approach highlighted by Steiger et al. (2015), for the purpose of this study, the qualifying criteria concerns primarily COI measurements: ownership and management control (refer Section 4.4). While it is commonly assumed that family involvement will translate into family influence that shapes the organisation, Zellweger et al. (2010) cited Chua et al. (1999), Chrisman et al. (2005) and Gómez-Mejía et al. (2007) and argued that such influence is not automatic.

The essence approach relates to the behaviour of those who control the business. A transgenerational vision is at the core of this behaviour (Habbershon & Williams, 1999) and leads to feelings of personal and social fulfilment that cause family members to guard the well-being of the business as a family business (Arregle, Hitt, Sirmon, & Very, 2007). Heck and Trent (1999) proposed that only businesses that intend to transfer the business to the next generation should be viewed as family businesses. For the purpose of this study, the intention to transfer the business to the next generation was not a requirement to participate in the study, but the intention to transfer the business to the next generation was measured and evaluated as part of the evaluation of family influence, as a component of family essence.

In the current study, the influence of family on the business is measured and discussed over and above primary criterion purposes and the essence approach to defining family business is measured as family commitment and family orientated non-economic family goals (refer to Section 2.6). Section 4.4 discusses the criteria for participation in the present study. Acknowledging that it is the involvement of family in family business that distinguishes these businesses from other forms of

business (Chrisman, Chua & Sharma, 2003; Tagiuri & Davis, 1996), the source of the uniqueness and the impact that it has on business dynamics has been a key focus of family business research.

As highlighted by Zellweger et al. (2010: 54), family business research has particularly focused on two distinct aspects: Researchers have attempted to explain differences between family businesses and non-family businesses (e.g., Chrisman, Steier, & Chua, 2008); and variations in behaviours among family businesses (Chrisman et al., 2008).

The overlap of business and family subsystems was highlighted by Habbershon et al. (2003), who suggested that the systemic influences generated by the interaction of the subsystems (family unit, business entity, and individual family members) “create an idiosyncratic pool of resources and capabilities”. These resources and capabilities have deeply-embedded defining characteristics that they referred to as the “family factor” (Habbershon et al., 2003: 460). This is supported by a South African study by Venter (2007: 398), who suggested that due to the complexity of different relationships that exist in family businesses, a heterodox view is required, whereby family and businesses cannot be separated, “but are rather a single interactive system that leads to unique resources”.

The idiosyncratic resources and capabilities created by the interaction and co-existence of the involved subsystems is often referred to as ‘familiness’ (Habbershon & Williams, 1999). The relevance of familiness as a strategic business consideration has gained prominence in family research (Irava & Moores, 2010; Zellweger et al., 2010). Like in the case of family businesses themselves, familiness has gained popularity and acknowledgement in terms of research (Chrisman, Chua & Steier, 2013; Craig & Moores, 2010; Irava & Moores, 2010), but is described as a fuzzy concept, (Moores, 2009; Pearson, Carr & Shaw, 2008; Rutherford et al., 2008), that has not been clearly defined (Chrisman et al., 2005). Konig et al. (2013) suggested that although not identical in their meaning, ‘family involvement’, ‘family influence’, ‘family control’ and ‘familiness’ are all terms used by researchers to describe the essence of a family business. For the purpose of this study, the term ‘family influence’ has been used consistently, to avoid confusion that could result from the ambiguity of ‘familiness’. The term ‘family influence’ was chosen as a broader definition, which incorporates involvement in terms of ownership and control, as well as family essence.

Chrisman et al. (2005) encouraged research that identifies the uniqueness of family businesses, in terms of how a family’s involvement is a root cause of their distinctiveness. They offered two dimensions of family involvement that help to explain family influence:

- The components of family involvement approach focuses on family ownership and control; and
- The essence (of such involvement) approach involves behaviours and synergistic resources and capabilities that a family contributes to a business.
- The present study adhered to the suggestion by Chrisman et al. (2015) and incorporated aspects of both the aforementioned dimensions, as illustrated below in Table 2.2. In line with most family business studies (Steiger et al., 2015), components of involvement, i.e. ownership

(Question 1.1.) and family management control (Question 1.2, Question 1.3 and Question 2.4), were used as criteria to participate in the present study.

Table 2.2: Components of family influence

Components of involvement		Essence
Generational overlap	Power:	Intention of generational transfer
	<ul style="list-style-type: none"> • Ownership • Family management involvement 	
	Experience:	Family commitment
	<ul style="list-style-type: none"> • Business age 	Non-economic family goals
	<ul style="list-style-type: none"> • Management generation 	Relationship conflict

The other aspects in Table 2.2 (experience, generational overlap and family essence) were not criteria for participation, but were measured as dimensions of family influence (refer to the research framework in Section 1.3). The following section provides an overview of the dimensions of family influence that were measured in the present study and justifies the selection of these dimensions, based on literature.

2.5. DIMENSIONS OF FAMILY INFLUENCE

With the growing interest in the role of family influence, Klein, Astrachan and Smyrnios (2005) proposed the Family Influence on Power, Experience and Culture (F-PEC) scale of family influence, which considers power, experience and culture as the dimensions of family influence. Utilising a sample of more than 1 000 randomly-selected companies, through the application of exploratory and confirmatory factor analytic techniques, these authors found that the scale demonstrates high levels of reliability.

Holt, Rutherford and Kuratko (2007) presented a further examination of the validity and reliability of the F-PEC scale, with data from 831 American businesses, to build on Klein et al.'s (2005) efforts to replace categorical measures of family business with a continuous scale by further exploring their F-PEC scale. Klein et al.'s (2005) original evidence comprised the analysis of data from a large sample of European businesses. Holt et al.'s (2007) analysis lent supplemental endorsement for the F-PEC's validity beyond that provided by Klein et al. (2005). A summary of the dimensions measured by the F-PEC scale, as refined by Holt et al. (2007), is presented in Table 2.3.

Table 2.3: The F-PEC scale of family influence

Family influence measurements		
Power	Experience	Culture
a) The percentage of family members who share ownership.	a) The generation of the family owning the company.	Three items let participants indicate the extent to which the family influenced the business and family values overlapped with business values, using a 5-point scale. The remaining items require participants to express their agreement with the family's commitment, loyalty, and pride towards the company.
b) The percentage of family members on the firm's board.	b) The generation of the family managing the company.	
	c) The generation of the family active on the governance board.	

Source: Holt et al., 2007: 2-3.

The *power dimension* reflects the influence the family has on governance and management of the business. This is manifested in the proportion of family ownership and the proportion of family representatives (either by relationship or appointment) on the firm's governing board (refer to Section 2.5.1).

The *experience dimension* discusses the family business experience sub-scale in relation to succession and the number of family members who contribute to the business (refer to Section 2.5.1). Astrachan et al. (2002) cited Heck and Trent (1999) who suggested that enterprises can be viewed only as family businesses when a transfer to the next generation is intended, while Klein et al. (2005) argued that at least one generational transfer should have occurred. Authors have argued that each succession adds considerable valuable business experience to the family and the company, with Astrachan et al. (2002) noting that family business experience of succession is regarded as involving an exponential continuum (refer Section 2.5.2).

Lastly, as part of the *culture dimension*, F-PEC assesses the extent to which family and business values overlap, as well as the family's commitment to the business. A business can be considered a family business when family and business share assumptions and values. Astrachan et al. (2002) cited Carlock and Ward (2001) who stated that the family's commitment and vision of itself are shaped by the family's view of what is important.

In their attempt to investigate the role of family influence on performance, Rutherford et al. (2008) utilised the F-PEC scale. They suggested that, although this scale adequately captures the involvement (or lack thereof) in a given business, it does not capture the essence of the business (Chrisman et al., 2005). Rutherford et al. (2008: 1103) argued that, "if the family does not actively work to transform this involvement into essence, then it is unlikely to enhance performance". Therefore, performance is not just impacted by control through ownership and control, but by the behavioural effects caused by family control and involvement. This notably includes the desire to transfer the business to the next generation and to achieve the vision of the family business.

Through Kellermanns et al.'s (2012) multi-dimensional family influence measurement, they proposed that they were responding to Rutherford et al.'s (2008) call for a measure of family influence that assesses a family's active role in the family business and not simply the family's potential influence on the business.

Kellermanns et al. (2012: 86) aimed to single out the means by which a family can exert influence over a business, utilising Astrachan et al.'s (2002) multi-dimensional view, but investigated family management involvement, generational ownership dispersion, and family member reciprocity – not the conventional power, experience and culture dimensions of the F-PEC scale. Alternative multi-dimensional family influence measures, like the example by Kellermanns et al. (2012) noted above, have been proposed, of which most are derived from the F-PEC measure.

The multi-indicator measure for family reciprocity, as used by Kellermanns et al. (2012), was considered for this study. This scale was, however, not validated and Kellermanns (2015) confirmed that the scale had not been used by any other researchers following the publication of this article. Instead of the family reciprocity scale, the present study has considered family culture as part of family influence and one of the key scales in the F-PEC scale (Astrachan et al., 2002; Klein et al., 2005). Chrisman, Chua, Pearson, and Barnett (2012: 278) utilised a 7-item version of the original 12-item culture sub-scale of the F-PEC scale, which was created to capture “the extent to which family and business overlap, as well as the family's commitment to the business”. This scale (called the commitment measure in the Chrisman et al. (2012) study) was adopted for the present study.

The rest of Section 2.5 discusses the dimensions of Family Influence that were measured in the present study. The power, experience and generational overlap dimensions of family influence are explored. Section 2.6 follows with an overview of the family essence dimension: intention of generational succession, family commitment, non-economic family goals, and relationship conflict.

2.5.1. Power and experience dimensions

The degree to which families strive to gain and maintain control and influence over the business is likely to depend on how involved the family is in the business (Sundaramurthy & Kreiner, 2008). Families influence businesses they own and/or manage, by using the power derived from active family management and/or from choosing the management (Rau, Astrachan & Smyrniotis (2018). For the purpose of this study, the power dimension was measured in terms of ownership and management involvement (refer to Section 3.2.1).

Owning families have been viewed to strive for autonomy and control (Olson et al., 2003; Ward, 1997). Therefore, sustained family ownership is a requirement for long-term family control, as it allows the family to exert influence over the business (Gomez-Mejia et al., 2007).

Family members often invest most of their personal wealth in their businesses (Carney, 2005). It can be argued that controlling families may be suspicious when it comes to external financial sources, because providers of capital typically demand involvement and influence in decision-making processes (Chrisman & Patel, 2012). Fearing the risk of failure, family members may be unwilling to jeopardise their financial stake and their socio-economic wealth in favour of innovation.

It can also be argued that controlling families that value their influence in decision-making processes are unlikely to make use of external human capital, because they avoid hiring external/non-family managers (Colombo et al. 2014) or delegate decision-making responsibilities to them. This could lead to a limitation in terms of human capital for innovation capacity. However, a recent study by Gast et al. (2018) provided evidence that family control through ownership and management is not inherently negative for innovation and can in fact be considered as crucial, depending on the prevalence of other socio-economic wealth dimensions, such as knowledge sharing (refer to Section 2.5.1) and identification with the family business (refer to Section 2.6.3.2).

This is supported by an agri-processing study by Fitz-Koch and Nordqvist (2017), which suggested that there can be a positive relationship between family control and influence on seizing innovation. Their study suggested that, instead of being risk averse in order to preserve socio-emotional wealth, some family businesses make a strategic commitment to innovation activities based on a long-term perspective and the agreement of later pay-off.

Kosmidou and Ahuja (2019) proposed two configurations that positively influence transgenerational innovation: (i) the family businesses that are highly innovative mainly because of the presence of well-educated, later-generation family members who are found to contribute increased knowledge diversity, while being more concerned about financial considerations than socio-economic wealth preservation; and (ii) the professionalised innovators, where the family businesses are highly innovative because of the increased knowledge and expertise that is brought to the firm by professional, non-family managers.

Eddleston and Kellermanns (2007) argued that family business performance improves when family members are involved in the business. With this inclusion in the decision-making process, other family members are better engaged, improving the decision quality. According to Lansberg (1999: 151), Olson et al. (2003) and Tucker (2011), the value of family interactions will influence the success of family enterprises as well as the success of the contingency process. The involvement of the family in top management can also lead to more flexible decision-making (Craig & Dribrell, 2006). However, Brockman, Martin and Unlu, (2010) argued that in family businesses where there are only family members, conformity can lead to groupthink, which could limit innovation.

Scholars have reported mixed and contradicting results regarding the relationship between innovation and the managing generation; some studies showed that family businesses become more innovative (Zahra, 2005), while other studies suggested family businesses become less innovative (Block, 2012; Kellermanns et al., 2012) over the course of generations.

Morris et al. (2010: 1079-1080) argued that a founder's personal experiences can be an important element in advancing the understanding of how family businesses form and develop: The perceptions, beliefs, time horizons, goals, and actions of entrepreneurs become rooted in their unique experiences. Business decisions are outgrowths of the highs and lows, negative and positive, and affect engagement levels woven into the fabric of temporal experiences.

Some authors suggest that, while first-generation family members tend to be more conservative and focused on preserving family wealth or ensuring a legacy for future generations (Kellermanns & Eddleston, 2006; Sharma et al., 1997), later-generation family members may be more entrepreneurially oriented and embrace radical innovation, even if it goes against earlier decisions (Litz & Kleysen, 2001; Salvato, 2004). Rau, Astrachan and Smyrniotis (2018: 200) posited that family members have the ability to capitalise on the experience the family has gained through managing the family business over generations. This was supported by Zahra's study (2005), where it was found that the involvement of succeeding generations in ownership and management promoted a family firm's risk taking and innovation. The results suggested that successors can contribute new knowledge to their family businesses, facilitating the identification of novel market opportunities and innovation. According to Cruz and Nordqvist (2012), environment dynamism and perception of technological opportunities drive innovation more strongly in later-generation family businesses than in first-generation family businesses, positing that the involvement of managers from succeeding generations tends to increase a family firm's ability to analyse the competitive environment and identify innovation opportunities.

However, other authors have indicated that lone-founder and first-generation family businesses may be more entrepreneurial (Craig & Moores, 2006), whereas their later-generation counterparts may focus on nurturing and preserving the family's accumulated wealth (Miller & Le Bretton-Miller, 2011). Bammens et al. (2010) argued that, particularly in early-generation businesses, the relatedness resulting from family involvement fosters an organisational culture that leads to innovation advantages. A study by Block (2012) suggested that family businesses owned by a lone founder invest more in innovation than those owned by multiple family members, arguing that later-generation businesses are less innovative. Block (2012) further suggested that earlier-generation family businesses are characterised by fewer inner conflicts and a more thorough understanding of the business than later-generation family businesses. The study by Classen, Carree, Van Gils and Peters (2014) also found that younger family businesses were generally the most innovative. Ehrhardt et al. (2007) highlighted that generational effects may have an influence on business performance. These authors found strong performance in the founder generation and even stronger

performance in the second generation. The third and fourth generations did not maintain the same levels of performance.

A study by Rau, Werner and Schell (2018) posited that psychological ownership could explain why while some family businesses innovate less when growing older, others are very successful and innovative over multiple generations. Psychological ownership can be described as the perception of knowing and controlling the firm and investing one's self in it (Pierce, Kostova & Dirks, 2001).

Rau et al. (2018) found that over the generations, innovation output decreases, being significantly lower in the third and later generation than in the founder generation. However, if the third and later generation owner-managers have high levels of psychological ownership, innovation output is as high as in the founder and second generation. It could be argued that psychological ownership could relate to family commitment, which comprises loyalty, support and care about the fate of the business (refer to Section 2.6.2).

A study by Hillebrand (2019) also highlighted heterogeneity in terms of innovation and managing generation. That study suggested that family businesses raise their innovation output over generations, but that this is significantly influenced by factors such as the intent to transfer family control to succeeding generations, as well as family involvement.

The present study measured Family Experience in terms of business age measured in years, as well as the managing generation (refer to Section 3.2.1.2). Refer to Sections 3.5.1 and 3.5.2, for an overview of the hypothesised impact of family power and experience on the innovativeness and conflict in these businesses.

2.5.2. Generational overlaps

Over and above the afore-mentioned power and experience measures pertaining to ownership and management, the present study also measured ownership and management concentration in terms of the generational overlap, which comprised the number of generations that respectively own and manage the family business (refer to Section 3.5.3). The next section discusses generational overlap or ownership and management, as a family influence dimension, further embedding family influence.

2.5.2.1. Ownership and management

Early family business literature recognises the anchoring role of founders in establishing the culture, values and performance of businesses (Sharma, 2004 citing Collins & Porras, 1994). This could be amplified by the longer tenures of family business leaders, compared to those of non-family businesses (Miller & Breton-Miller, 2006). Sharma (2004) suggested that a combination of individual traits, family structure, values, future goals and the envisioned role of the founder in it, as well as other contextual aspects (like the state of the economy or industry growth) influence the disposition of founders during their tenure. Garcia-Alvarez, Lopez-Sintas and Gonzalvo (2002) further observed that the founder's vision and the means by which this is transferred to the next generation influences

the culture of the business, even beyond the founder's tenure – a view that is supported by Ogbonna and Harris (2001: 27-29). This view complements Schein's (1985) suggestion of an evolutionary view of corporate culture, which used the founder's values and belief system as an anchor, but also incorporated new learnings over time, as the organisation interacted with the world at large.

Managing founders can have a positive effect on family business performance (Anderson & Reeb, 2003; Block, Jaskiewicz & Miller, 2011; Villalonga & Amit, 2006). Evidence has suggested that family management is more likely to have a positive influence on family business performance, when the founder is at the helm (Anderson & Reeb, 2003; Miller, Le Breton-Miller, Lester & Canella, 2007; Poutziouris, Savva & Hadjielias, 2015; Villalonga & Amit, 2006).

Boeker (1989: 150) is of the opinion that resistance to change is less likely when the founders are still active in the business. This study found that the longer the tenure of the founder, the more likely it is that strategic change will take place. This finding is explained through two suggested explanations. Firstly, founders supposedly have the authority to change and impose new practices and principles, while secondly – because of their entrepreneurial drive – they are less likely to strictly follow rules. According to Pieper et al. (2013), owners may, however, be unwilling to make changes to the business for fear that doing so will upset the dynamics of the family and risk destructive conflict, or other perceived negative consequences.

The extent to which family members understand the founder's strategic intent and beliefs, depends on how the founder initiated and guided the strategy process in the business. These researchers argued that the founder's centrality in strategic decision-making could influence cohesion of management of the business. Chrisman et al. (2008) added that differences in the formulation and implementation of strategies in family businesses are traceable to differences in those who manage these companies, and in their goals and aspirations.

According to Morris, Allen, Kuratko and Brannon (2010), the earlier part of family business creation, and therefore the origin of the envisioned future, has not been a focus of family business research. Founders are, however, often faced with unpredictable environments and have to deal with unique challenges as they emerge. This supports the argument that clear-cut 'scripts' are not effective in the emergent nature of new family businesses and that business owners are often required to adapt as they go along (Baron, 2008: 329).

The influence of the founder can be an encouragement and driver of success, but it can also become detrimental. Lansberg (1999) commented that the reluctance of the founding members to delegate is one of the main issues that derails succession efforts. Nicholson (2008) elaborated on 'the dark side' of the inherent characteristic of taking the view beyond the founder's lifespan, citing discontinuity at points of intergenerational transition and overly conservative and risk-averse approaches to strategic and financial decisions, due to the family's concern for preservation. It can be argued that incumbent family members have limited power in changing this approach while the founder or earlier generation is still at the helm.

Founders are also known to play multi-entity roles in business succession. In a Chinese study by Lam (2011), business founders simultaneously played the role of the 'happy, liberal father', willing to entrust the business to the next generation, but also the role of a responsible business owner who must still keep an eye on everything. A study by Handler (1990) also suggested that the role of next-generation family members is shaped by the role of the predecessor.

Venter, Boshoff and Maas (2005: 299) posited that, since the two parties involved in a family business succession process will be at different stages in their lives, it is most likely that they will have different priorities and view the business from different perspectives. Because family members from different generations often have different perspectives, these differences can lead to conflict (Gersick, Davis, Hampton & Lansberg, 1997).

In Lam's (2011) study, it was found that successors want to independently make decisions, but at the same time they want their predecessor to be there as a gatekeeper, since they are aware of their own lack of experience. Pieper et al. (2013: 493-494) used the metaphor "Retarding Maturation" to describe when businesses retard the normal development of individuals in the family because it can hold (intentionally or unintentionally) younger family members hostage in the sense that they need to do what they are told in order to receive recognition from their parents.

The degree of control concentration of the business greatly varies among family businesses – from one controlling owner to several siblings controlling the business. Coalitions in these businesses can be a variety of individuals with a common vision (Kellermanns & Eddleston, 2004). Low levels of control concentration indicate that many individuals are involved in the decision-making process, such as several siblings and the founder. On the other hand, higher levels of control concentration indicate that the power in the organisation is limited to a select few or to one individual, often the founder (Kellermanns & Eddleston, 2004).

In the case of high control concentration, controlling individuals tend to have a strong desire for leadership and authority over decision-making. Kellermanns and Eddleston (2004: 217) stated that individuals in family businesses who monopolise control often define success in terms of their own personal utility and outcomes that go beyond financial benefits. These include the ability to exercise authority, dictate strategy and choose the developmental path of the company (Schulze et al., 2003). Authoritarian management, where control of the business is limited to the founder or older generation, is often characterised by a less participative environment, with less debate about strategy and process among family members (Kellermanns & Eddleston, 2004). In contrast to family businesses that have only one or a select few family members in control, other family businesses have a low concentration of control, with siblings and different generations sharing the control of the business. The participation of more family members is posited to lead to greater diversity of perspectives (Kellermanns & Eddleston, 2004) and is often the start of the succession process.

While the dispersed control could lead to a decision-making process with broader participation, there are also certain drawbacks to such a system. With this greater dispersion of control comes new

challenges, which include greater conflict. Conflict situations often emerge when different generations contribute to the strategic direction of family businesses (Frank, Kessler, Nose & Suchy, 2011; Welsh, Memili, Rosplonck, Roure & Segurado, 2013).

An empirical study by Davis and Harveston (2001) suggested that the presence of added family members in the decision-making within family businesses increases conflict.

The more people in control, the longer it takes to make decisions (Dooley, Fryxell & Judge, 2000), because different parties feel that their control affords them decision-making authority. Successors are also known to play multi-entity roles: the filial role of obedience and easing their father's burden, while they simultaneously have their own agendas and want to make their mark (Lam, 2011).

An empirical study by Bertrand and Schoar (2006) stated that the cultural view of family businesses implies that these businesses might be less willing to make changes to their overall strategy, even when market pressures ask for such changes. This is argued to be a result of a sense of duty and respect for their elders by younger generations, who find it difficult to change decisions such as where to locate, what to produce, or which customers to serve.

However, Mitchell et al. (2009) argued that family influence (refer Section 2.5) could facilitate successors' ability to effectively manage the power associated with this role, as a result of the associated trust and cohesiveness it generates. With founders clearly having an impact on the way that successors run the business, Zahra (2005) posited that the entrenchment of previous generations can negatively impact successors, because it inhibits the ability of successors to make the needed adjustments. However, according to Mitchell et al. (2009), factors exist that enable successor control, such as the individual make-up, skills and abilities of successors. These authors posited that by understanding both successor discretion and the characteristics of family businesses that affect this, successors and predecessors can resolve the tension between longevity and succession difficulties. Pieper et al. (2013) believed the challenge, is to develop a family culture that allows a family business to strike a healthy balance between keeping offspring close to the family and interested in the business and also allowing them to explore their personal desires and what they want to achieve in their own lives, independent of family and business.

According to Athanassiou et al. (2002), interaction among family members creates shared learning. Overlapping ownership is posited to influence inter-generational learning (Trevinyo-Rodriguez & Tapies, 2010), since owners are inclined to teach the next generation members everything they know about the business, with the objective that their children continue it and build on it. Strong social ties within a business facilitate the internal exchange and expansion of tacit knowledge, a vital part of business innovation (Sirmon & Hitt, 2003). Families are able to transfer and employ tacit knowledge from generation-to-generation to influence their business and how it might contribute to performance over the long run (Jaskiewicz, Combs, Shanine & Kacmar, 2017). The ability to transfer family firm-specific knowledge through intrafamily succession is posited to support innovation, as the firm can benefit from the value of past knowledge over generations (Petruzzelli & Albino, 2012). A New-

Zealand wine industry study by Woodfield and Husted (2017), highlighted intergenerational knowledge sharing. This study presents evidence of bidirectional knowledge sharing between senior and next generations. The next generation - given their formal education and/or work experience – brings a valuable knowledge base to the family business. The senior generation draws more extensively on explicit knowledge acquired through tertiary education combined with tacit knowledge. An overlap between these wine industry generations could therefore be argued to provide unique opportunities for wine industry family businesses.

The ownership structure family businesses is likely to mirror the developmental stage of the business (Hoy, 2006). When ownership concentration is consolidated, ownership resides with one generation and ownership is usually held by the founder or a married couple – indicative of a business in the early stages of its life cycle. Conversely, high dispersion of ownership indicates ownership control by multiple family branches. When ownership control is held by multiple generations, the firm is likely in a later stage of development.

According to Kellermanns et al. (2012), generational ownership dispersion can be approached from both a stewardship and agency perspective. These authors argued that from an agency perspective, there are costs and benefits associated with each degree of ownership. As the business enterprise becomes more complex and ownership resides with multiple generations, the potential for discord and competing interests rises exponentially above that of the controlling ownership stage (Gersick et al., 1997). From a stewardship perspective, familial altruism often erodes as the family becomes larger and the dispersion of ownership increases across the generations. Kellermanns et al. (2012) argued that with each additional generation, family members become further removed from the founding generation, dampening family ties and commitment to the founder's vision.

For the purpose of the present study, the overlap of incoming and outgoing generations was assessed in terms of both management (Question 2.6) and ownership (Question 2.7). With such an overlap, both conflict (Davis & Harveston, 2001) and innovation (Hauck & Prügl, 2015: 104) are influenced, making generational succession and the related overlaps a key consideration for the present study. The present study argues that overlapping generations will lead to higher levels of innovation (refer to Section 3.5.3). The following section discusses goal alignment between different generations, as a dimension of family influence.

2.5.2.2. Goal alignment

A family's vision and intention for transgenerational sustainability are among the most important characteristics distinguishing family and non-family businesses (Daspit, Holt, Chrisman, & Long, 2016). For the purpose of the present study, goal alignment was measured in terms of alignment of goals between different involved generations (Question 3.1) (refer to Section 3.5.4).

Kotlar and De Massis (2013) found that the intensity of the bargaining process used to achieve goal consensus increases at critical junctures, such as during intra-family leadership transitions. This is

supported by De Tienne and Chirico (2013) and Wiklund, Nordqvist, Hellerstedt and Bird (2013), who maintained the notion that goals vary across generations. Earlier literature suggested that roles change over the stages of succession and that a successful transition involves a process of mutual role adjustment (Handler, 1990). Royer, Simons, Boyd and Rafferty (2008) argued that, when internal succession occurs, family members usually have a similar life world, which simplifies communication processes and enhances trust building. They added that social control and long-term relations between family members often lead to situations where a favourable succession atmosphere exists – “particularly in environments where opportunistic behaviour may be hard to detect” (Royer et al., 2008: 17).

Hauck and Prügl (2015: 104) utilised a socio-emotional wealth perspective to reason that the intra-family leadership succession phase has distinct characteristics that render it a peculiar time frame for innovation. These authors investigated how socio-emotional factors are related to the owner-manager's perception of the intra-family leadership succession phase as an opportunity for innovation. They showed that adaptability and a family member's closeness to the business are positively associated with perceiving the succession phase as an opportunity for innovation. Conversely, intergenerational authority and the history of family bonds are negatively related with the perception of the succession phase as a suitable time frame for innovation.

According to Landes (2006), some cases of family businesses have the capability to dynamically develop over generations and leadership transitions offer ideal opportunities to reformulate a company's direction and renew its energies (Lansberg, 1999), but often in selecting new leaders family businesses look to past needs instead of future requirements. Lansberg (1999) added that strategic goals of previous generations may be out of sync with changing requirements and competitive demands. It can therefore be argued that succession can be an opportunity for innovation and should not only be viewed as a potential barrier to longevity. According to Aldrich and Cliff (2003), major socio-historical transformations in family composition and family members' roles and relationships can influence opportunity emergence and recognition, and therefore innovation opportunities.

Lam (2011: 524) challenged assumptions of shared goals in succession, highlighting that there is little evidence of shared realities, as owners and their successors “seemed to be dancing to very different tunes simultaneously”, sometimes without shared understanding of their respective roles in the ‘dance’. If values, knowledge bases, motivations, and experiences are different, the different decision-makers may generate different perspectives regarding the strategic decisions that the business should take (Efendy et al., 2013). Lam (2011) cited literature suggesting that a detailed long-term plan is central to succession planning, but added that this presupposes that individuals will act consistently based on their plan as if they were following a road map to an inevitable destination. This is challenged by studies which proposed that individuals behave neither rationally

nor consistently in the family business succession process (Degadt, 2003), thus undermining the value of succession planning (Lam, 2011).

The alignment of multiple goals among stakeholders was highlighted by Sharma (2004) as a potential challenge in family business. Pokahr, Braubach and Lamersdorf (2005) proposed that, because of multiple beliefs and desires, individuals may also seek multiple goals. The term “politics of value determination” was used by Chrisman, Chua and Litz (2004: 470) to describe stakeholders contending for recognition to influence the formulation of family business goals. Cheng, Luckett, and Mahama (2007) considered the negative effects which may occur when goals are incompatible – when goals are conflicting. These authors found strong support for a negative relationship between goal conflict, as perceived by the employees, and performance. However, Rondi, De Massis and Kotlar (2017) suggested that, while family unity and family goal alignment can be beneficial for family business innovation (Chirico & Salvato, 2016), low family cohesion and high family goal diversity can also foster innovation. High cohesion can also severely hamper the ability of the family business to capitalise on the heterogeneous opinions of family members. High cohesion can insulate members from outside influences, leading to groupthink and conformity (Zahra, 2012), and reducing healthy debate (Sundaramurthy & Kreiner, 2008).

Chrisman, Sharma, Steier and Chua (2013: 1250) suggested that the nature of goals appear to lead to differences in behaviours and outcomes among family businesses, arguing that family businesses have diverse goals that influence and are influenced by factors that may change over time. The notion of shifting or changing goals was supported by Rhodes and Lansky (2013), who explained that families should realise that goals may have shifted and must be willing to make changes accordingly. They added that the goals may have shifted from the founding stages to the next succession. A survey by PwC (2014: 5) found that globally, successors who decide to go into the family business mostly have plans to do something significant when they take over the family business. These suggested plans included product development, growth, new technology and new approaches to marketing using social media. This PwC report also suggested that the succeeding generation often attained business degrees or attended management courses and intended to apply what they have learnt in the family business, while this survey posited that it is an increasingly common option to seek work experience outside the family business – also a source of new ideas and, potentially, new goals.

2.6. FAMILY ESSENCE

Family essence involves family business behaviours (Chrisman, Chua & Sharma, 2005) that result from family involvement (Rutherford, Kuratko & Holt, 2008). The following section discusses the components of Family Essence measured in this study.

2.6.1. The intention of generational succession

A family's vision and intention for transgenerational sustainability are among the most important characteristics distinguishing family and non-family businesses (Daspit et al., 2016). According to an evolutionary psychology study by Nicholson (2008), the mere possibility of intergenerational transmission of the title and ownership of the business within a family changes the dynamic of the enterprise. He commented that even first-generation family businesses are inclined to take a view beyond their own lifespan. Diaz-Moriana, Clinton, Kammerlander, Lumpkin, and Craig (2018) highlighted a transgenerational legacy building pattern in some transgenerational businesses, whereby innovations were associated with a certain pressure to perform and continue the family business and a desire to leave a mark for the next generation. These authors observed that innovative practices were conducted with the belief that they will have utility in the long run and will be of transgenerational benefit to the business.

Furthermore, Zellweger et al. (2012) hypothesised that socio-emotional wealth (refer to Section 2.4.1.3) increases with intentions for transgenerational succession. It could be argued that, when family businesses intend to transfer to the next generation, innovation increases in order to sustain the long-term survival of the business. This is supported by a study by Jaskiewicz, Combs and Rau (2015), which suggested that innovation increases the likelihood of survival across generations.

Chrisman and Patel (2012) proposed that a family business's tendency to engage in long-term investment horizons depends on the transfer of control to the next generations. (Refer to Section 2.6.2.1 for a discussion about long-term orientation in family businesses.) The next section discusses family commitment as a component of Family Essence.

2.6.2. Family commitment

Building on studies that define commitment, Meyer and Herscovitch (2001: 301) stated that definitions of commitment in general make reference to the fact that commitment is a stabilising or obliging force, that gives direction to behaviour. Mahto, Davis, Pearce, and Robinson (2010) defined family commitment as the family's collective intent to continue owning and operating the business. According to Meyer and Herscovitch (2001), commitment is a force that emerges as a frame of mind or psychological state compelling an individual towards a course of action that is relevant to one or more targets. In a family business context, it can be argued that these targets are in line with the goals of the family business, including its long-term continuation. Family commitment is measured in the present study through a scale adopted from Chrisman et al. (2012: 278), which relates to aspects such as agreement with the goals and plans of the business, loyalty to the business, caring about the fate of the business and being willing to put in extra effort to make the business successful.

Earlier research (Fukuyama, 1995; Lyman, 1991) suggested that shared goals characterising family businesses could result in a higher degree of cohesiveness and commitment of the workforce, which contributes to creating potential advantages over non-family businesses. Zahra, Hayton, Neubaum, Dibrell and Craig (2008) highlighted that commitment to the family business is closely linked to personal identification. It can also be argued that family businesses can become more committed to their business as not only their financial resources, but also their social resources, such as reputation and identity, are linked to the family and are dependent upon the success of the business much more directly than in the case of non-family businesses (Zellweger et al., 2013). Dawson, Irving, Sharma, Chirico, and Marcus, (2014) provide evidence from a dual respondent study of 109 Canadian and Swiss family businesses that descendants with affective commitment to their family businesses are more likely to engage in discretionary activities going beyond the job description, thereby contributing to organisational performance.

Chirico, Ireland and Sirmon (2011) suggested that it is the commitment of family members towards their business that motivates them to be involved in it. Aldrich and Langton (1998) even posited that high levels of commitment could compensate for limitations in ability and overall managerial competence of family members. On the contrary, family members may desire a position in the family business not because of commitment to its goals or growth, but to protect their inheritance rights and assure access to business resources (Eddleston & Kidwell, 2012).

Chirico, Salvato, Byrne, Akhter and Muzquiz (2018) cautioned that commitment to a failing family business could have negative implications, whereby higher levels of emotional ownership make family members able to tolerate negative results and continue the operation of the original founder's business formula for affective, rather than for profit reasons (De Tienne & Chirico, 2013).

Most of the literature on family commitment, however, highlights positive attributes. Channelling the commitment of family businesses towards accomplishing the family businesses' goals should improve the performance of these businesses (Eddleston et al., 2012; Zahra & Sharma, 2004; Zahra et al., 2008). Commitment to the family business is also suggested to affect decision-making regarding:

- Business culture (Heck, 2004);
- Organisational values (Arregle et al. 2007; Eddleston & Kellermanns 2007);
- Financing attitudes (Koropp, Grichnik & Kellermanns, 2013);
- Succession (Bozer, Levin, & Santora, 2017);
- Strategic flexibility (Zahra et al. 2008); and
- Internationalisation (Segaro, Larimo & Jones, 2014).

The last two areas relate more closely to innovation. Zahra et al. (2008) suggested that commitment by the family and employees interact as high family commitment can yield an environment where ideas about how to monitor and respond to changes can flourish, subsequently enhancing the abilities to pursue new opportunities and to respond to threats.

Commitment to the family business is central to the overarching goal of the future continuation of the family business. A South African study by Van der Merwe, Venter and Farrington (2012: 26) established a positive relationship between the family business values, “trust and commitment” and “the perceived future continuity of the family business”. The aspect of future continuation of the business could imply a more embedded commitment (Mahto, Davis & Khanin, 2014), while long-term oriented relationships can enhance employee commitment (Meyer & Allen, 1991). In line with the long-term orientation towards continuation of the family business, Mahto et al., (2014) found that aspirations regarding future performance appears to be one of the strongest predictors of a family’s continued commitment. In a non-family business study, Mukanzi and Senaji (2017) provided evidence that perceived managerial support is closely related to employee commitment.

Holt, Rutherford and Kuratko (2010) found that long-term commitment to the family business by senior management and the next-generation increased with experience. This association with the future continuation of the business, highlights the relevance of family commitment as a component of family essence, since it relates to typical family business behaviours and the desire to keep the business in the family (refer Section 3.5.6). In line with the drive for future continuation of the business and the key theme of innovation, family members’ commitment to the business is shown to be so powerful that it has both a mediating and a directly positive effect on product development (Chirico & Salvato, 2016).

The commitment of all family members can provide family businesses with the possibility of investing in innovation for longer periods (Fitz-Koch & Nordqvist, 2017) . This confirms the suggestion that a long-term orientation deepens the understanding of renewal of innovation activities within family businesses (Chirico & Nordqvist, 2010). This is supported by a study by Filser, De Massis, Gast, Kraus and Niemand (2018), which found that family members with strong emotional attachment to the firm tend to feel more responsible and committed to the firm and its long-term success, which outweigh the potential risks of innovation, including the risk of business failure due to unsuccessful innovations.

Based on the importance of future continuation in family commitment, a long-term orientation to the family business is now discussed in more detail. Long-term orientation was not measured in the present study, but is regarded as related to the measured dimension of family commitment. Refer to Section 3.5.6 for a discussion about the hypotheses relating to family commitment in this study.

2.6.2.1. Long-term orientation

A global survey by PwC (2014: 2) listed “the ability to take the longer view” as one of the qualities that make family businesses stand out. Non-economic and economic incentives can promote a long-term orientation of family businesses (Lumpkin & Brigham, 2011; Miller & Le Breton-Miller, 2006). According to Miller and Le Breton-Miller (2006), long-term orientation as a dimension of family business culture, results in distinct advantages for family businesses.

Miller and Le Breton-Miller (2006: 732) defined the different drivers of long-term orientation as follows:

- Long-term priorities include good stewardship aimed at reducing risk or building up resources.
- Long-term goals are more specific and might involve achieving enduring quality or innovation leadership.
- Long-term investments are actual expenditures and resource allocations intended to realise these long-term goals, and they have similar time horizons and anticipated payback periods. These include research and development (R&D) projects, major new infrastructure expenditures, and investing in reputation or enduring relationships with employees, clients, suppliers, or the community.

A significant reason for long-term orientation is the aspiration to sustain business across generations, which naturally requires a long-term approach. This should therefore be taken into account, when considering that transgenerational succession could either change the orientation of the business or strengthen the orientation, as envisioned by the founder. Lumpkin and Brigham (2011) suggested that for many family businesses, the non-economic significance of a long-term orientation is as important as its financial benefits. They commented that the decisions and actions of family businesses are often driven by a range of non-economic goals such as the desire to maintain the family’s identity. This is supported by Tapies and Moya (2012: 143) who suggested that “longevity is also an asset that strengthens the image, reputation and credibility of family businesses”.

Drawing on literature from a range of disciplines, Lumpkin and Brigham (2011: 1150) suggested that a long-term orientation is composed of three dimensions: futurity, continuity and perseverance. A review of each of these dimensions and how they contribute to understanding long-term orientation as a multi-dimensional construct are addressed in Table 2.4.

Table 2.4: The dimensions of long-term orientation in family businesses

Futurity	<ul style="list-style-type: none"> • Futurity is based on the belief that forecasting, planning, and evaluating the long-range consequences of current actions have utility. • It suggests that a business's dominant coalition is mindful of a desired future and takes steps to reach this desired state. • As a component of an organisation's shared strategic cognition (i.e. shared beliefs about strategic direction), futurity has been found to be stronger in the top management teams of family businesses than in non-family businesses.
Continuity	<ul style="list-style-type: none"> • Continuity is based on the belief that whatever is long-lasting and endures, has value. As such, it consists of preservation, constancy, and durability. • Continuity takes into account the arc of time, that is, the forces from the past that influence the future; it is concerned with how long-standing aspirations and legacy issues affect future decisions and actions. • Research indicates that the CEOs of family businesses that have longer tenures promote continuity by being (1) more engaged and knowledgeable about the business; and (2) less likely to make risky or opportunistic decisions. • The effect of the founder on the family business may continue far into the future.
Perseverance	<ul style="list-style-type: none"> • Perseverance refers to the conscientiousness that is required to persist over time. It is based on the belief that efforts made today will pay off in the future. • In the family business context, prior researchers have noted that "family businesses tend to have a relatively high degree of intentionality of commitment to achievement and perseverance that derives from individual pride, family pride, and family tradition". • Perseverance is indicative of a strong motivation to succeed on behalf of the family business and has been found to be a key element in helping owners overcome initial business challenges.

Source: Lumpkin and Brigham, 2011: 1152-1155.

Miller and Le Breton-Miller (2006) proposed several leadership and governance elements that might drive long-term orientations. These range from family ownership, control, and knowledge of the business, to extended chief executive officer (CEO) tenures and consideration for later generations of owners and managers. Such drivers, according to these researchers, provide the incentives, discretion, resources, and information to implement a long-term orientation. The proposed governance characteristics and resulting outcomes are listed in Table 2.5.

Table 2.5: Characteristics and outcomes of long-term orientation in family businesses

Governance characteristics	Governance outcomes
Long CEO tenures	<ul style="list-style-type: none"> • Lengthy investment time horizons • Incentives to invest • Stewardship.
Family and CEO control	<ul style="list-style-type: none"> • Discretion to invest.
Ownership stake	<ul style="list-style-type: none"> • Reduce monitoring costs, generating more resources to invest.
Owner and CEO knowledge	<ul style="list-style-type: none"> • Knowledge reduces uncertainty about long-term investment.

Source: Miller and Le Breton-Miller, 2006.

Miller and Le Breton-Miller (2006) suggested that these characteristics, generally associated with family businesses, are conducive to long-term orientation. Lumpkin and Brigham (2011: 1161) suggested that there are positive returns to having a long-term orientation. They believe that adopting a long-term orientation when taking action and making strategic choices will be associated with better financial performance and competitive advantages in family businesses. Similarly, Lumpkin, Brigham and Moss (2010) proposed that a long-term orientation will be positively associated with innovativeness, proactiveness, and autonomy, but negatively associated with risk taking and competitive aggressiveness. Miller and Le Breton-Miller (2006: 731) indicated that conditions such as concentrated ownership, lengthy tenures and insightful business expertise give some family business owners the discretion, incentive, knowledge and ultimately, the resources to invest deeply in the future of the business. Such long-term investments are the result of specific governance conditions and engender competitive asymmetries – qualities that are hard for other businesses to copy.

Diaz-Moriana et al. (2018) suggested that a long-term orientation is compatible with innovation and may also shape innovative behaviour in family businesses (Refer to Section 2.8). These authors indicated that family businesses with long-term orientation dimensions are associated with certain innovation motives:

- **Conserving:** Innovations that reflect the importance of the past, the family traditions and reputation.
- **Persisting:** Innovations related to cumulative effort and patience for long-term rewards.
- **Legacy building:** Innovations associated with a certain pressure to perform and continue the family business and a desire to leave a mark for the next generation.

Qualities such as long-term job security and investment (made possible through commitment to a family business) could be beneficial for radical innovation, in what Bodwell and Chermack (2010: 195) described as an ever-evolving and uncertain business environment, which necessitates innovation. Bhide (2000) highlighted that innovation requires long-term investment due to the long lead times associated with successful implementation. Radical innovations typically only come to fruition after significant periods of a decade or longer (Leifer, McDermott, O'Connor, Peters, Rice & Veryzer, 2000), but have a bigger industry impact.

2.6.3. Non-economic family goals

The theory of non-economic family goals, posited that all businesses develop and pursue non-economic as well as economic goals (Cyert & March, 1963) through a process of stakeholder negotiation, but family businesses specifically have non-economic goals reflecting the unique interests of the controlling family (Chrisman et al., 2012; Zellweger & Nason, 2008; Zellweger, Nason, Nordqvist & Brush, 2013). Ownership type may affect the nature of the goals aspired to by the business, with Thomsen and Pedersen (2000) suggesting that the identity of the owner (including

a family, bank, institutional investor, government or companies) has important implications for corporate strategy and performance. Zellweger et al. (2013) suggested that family businesses pursue non-financial goals when controlling families seek family-centred goals (Carney, 2005), or when controlling families seek to preserve the socio-emotional wealth that they derive from being in control (Berrone, Cruz, Gomez-Mejia, & Larraza Kintana, 2010).

In a study of German family businesses, Kammerlander and Ganter (2015: 378) argued that the existence of non-economic goals is not bound to family influence: “For instance, a thirst for personal power, political opinion, or ideological beliefs might affect sense-making and decision-making among CEOs. Depending on the CEOs’ level of managerial discretion, such factors may, in turn, ultimately affect organisational moves in other types of organisations”.

The goals of family businesses are, however, particularly complex (Tagiuri & Davis, 1992) and unique attributes, including family succession (Rhodes & Lansky, 2013) and socio-emotional wealth (Gómez-Mejia et al., 2007), influence the goals of these businesses. Chrisman et al. (2012) hypothesised that family businesses may have non-economic goals that could influence family business behaviour. They proposed that family involvement and the essence of family interact to affect the adoption of non-economic family goals. There are dynamic linkages among the economic and non-economic goals of the family and the governance and resources of the business (Chrisman et al., 2013). Family businesses “consider trade-offs between economic and non-economic goals and prospects when making critical decisions on whether to keep the business in family hands” (Chrisman et al., 2013: 1251). The nature of those trade-offs depends on the prevalent ownership and management configuration of the business (Chrisman et al., 2013).

Because goals generally impact behaviour and drive performance, a good understanding of a business’s goals could be a precursor to understanding its behaviour and performance. Non-economic goals in non-family businesses relate to perceptions, values, attitudes and intentions of coalitions in the organisation. However, the family-centred non-economic (FCNE) goal scale developed by Chrisman et al. (2012) relates to:

- Ownership (Astrachan & Jaskiewicz, 2008);
- Social capital (Arregle et al., 2007);
- Family harmony (Astrachan & Jaskiewicz, 2008); and
- The creation and preservation of socio-emotional wealth (refer to Section 2.4.1.3).

Chrisman et al. (2012) argued that the adoption of non-economic family goals infers that the family intends to manage the business to realise a vision that extends beyond the lifespan of the current generation (refer Section 2.6.2.1). Irrespective of generational change, the age of a business may also impact the role of non-economic family goals. Zellweger and Astrachan (2008) argued that, since the family should become more attached to the business over time, age should be positively related to non-economic family goals. A family’s commitment to the business suggests that the

values and interests of the business and family are aligned by a dominant vision that may shape business behaviour (Chrisman et al., 2012).

It can be argued that the long-term influence of non-economic family goals can influence family businesses in different ways, including product positioning (Morton & Podolny, 2002), innovation and diversification (Monti & Salvemini, 2014) and ultimately the desire to keep the business within the family (Wiklund et al., 2013). The age of a business may also impact the role of non-economic family goals. Zellweger and Astrachan (2008) argued that since the family should become more attached to the business over time, age should be positively related to non-economic family goals.

A study by Williams (2015) highlighted the variety of non-economic goals found in family business studies. Chrisman et al. (2012) and Tagiuri and Davis (1992) also found that family businesses are generally seen as having more goals than non-family businesses. The present study therefore did not aim to study a complete set of non-economic family goals. The individual non-economic family goals measured in the present study are now discussed in more detail. Refer to Section 3.5.7 for a discussion of the hypotheses relating to non-economic family goals in the present study.

The first three items measured in the present study (harmony, social status and family identity) were adopted from Chrisman et al. (2012) (refer to Section 2.6.3). The goals in the study by Chrisman et al. (2012: 277) represent “benefits family members might desire from their involvement and for which they might use their influence”. These goals were also consistent with previous family business studies.

Based on the Chrisman et al. (2012) selection criteria, two other items (community contribution and job creation for the next generation) were specifically added in the present study. These goals are specifically relevant in the context of the South African wine industry and have been studied in existing family business research (refer to Section 2.6.3.3 and Section 2.6.3.4). Considering the significant role of conflict in family businesses (Refer to Section 2.9), Williams, Pieper, Kellermanns and Astrachan, (2018) noted that there was lacking scholarly discussion pertaining to family business goals and relations among owning-family members in the research.

2.6.3.1. Harmony

The first item of the Chrisman et al. (2012) scale relates to the importance of family harmony as a business goal: “Family harmony is an important goal when making business decisions”. Since conflict is a key focus of this study (refer to Section 2.9. for a detailed discussion about conflict in family businesses), the harmony non-economic goal item is particularly important.

Family harmony is not financially-orientated or measureable, and is considered a non-financial goal of many family businesses (Zellweger & Nason, 2008: 205). Over and above the financial goal of profitability, a family business is considered successful when harmonious family relationships exist (Maas, Van der Merwe & Venter, 2005; Santiago, 2000; Sharma, 2004; Venter, 2003).

Considerable value is therefore placed on preserving harmony in family businesses (Aronoff, Astrachan, Mendosa & Ward, 1997: 62; Lansberg, 1999: 341). Retaining harmony is argued to be a unique goal of family businesses, since the harmony of the CEO's family should have little impact on the goals of a non-family business, while family harmony can be of significant importance to family businesses (Astrachan & Jaskiewicz, 2008; Sharma et al., 2001).

Malone (1989) proposed that family harmony comprises mutual respect, trust, understanding among family members, and the presence of open lines of communication. The importance of harmony as a non-economic goal is notably rooted in the preservation of socio-emotional wealth, in terms of preserving binding social ties among family members (Berrone et al. 2012: 259). Building on socio-emotional wealth theory, Gast et al. (2018) suggested that attributing high value to close ties, strong emotional bonds, and harmony, could make family businesses reluctant to put relationships at risk by engaging in risky activities, including innovation (Li et al., 2013).

A study by Ruiz, Vallejo and Martínez (2015) proposed that the need for harmony refers to the feeling of stability that the family provides for each of its members and which arises from the everyday interaction between family members generating principles and values that ensure good relations. In a South African study, Maas et al. (2005) suggested that a family business without family harmony will struggle to be profitable. Graves and Thomas (2008) posited that family harmony encourages family members to reinvest profits in the company and fund its growth. Barach and Gantisky (1995: 141) believe that good family relationships contribute to the team spirit that must prevail for the family business to prosper. A study by Leung (2008) suggested that a lack of harmony can lead to significant financial losses through high rates of absenteeism, sick leave and time wasted on emotional conflicts.

The study by Ruiz et al. (2015) found that higher levels of harmony have a positive and significant influence on the performance of family businesses. These authors used trust, participation and work climate as determinants of organisational harmony. Harmony is also listed as a key motivation of family business succession by Gilding, Gregory and Cosson (2015). This is supported by a South African study by Venter, Van der Merwe and Farrington (2012), which provided evidence that family harmony had a significant positive influence on the perceived future continuity of family businesses. Their study found that family harmony is significantly influenced by the incumbent generation and that the greater the extent to which the younger generation can realise their personal ambitions and career needs through opportunities created by the family business, the more harmonious the relationships within the family business are likely to be.

2.6.3.2. Social status and family identity

The next two items of the Chrisman et al. (2012) scale relate to social status and family identity as non-economic drivers and concern the socio-emotional wealth as well as essence of the family business: “The social status of the family is an important factor when making family business decisions” and “My business is closely linked to the identity of my family”.

Morton and Podolny (2002) highlighted social status as a non-economic goal in the wine industry by positing that Californian winery owners are motivated by the prestige of higher prices for their wine, as well as premium quality. The desire to maintain a positive image, fosters the family’s need to preserve both the family and the business reputations and the social status of the family in the community (Berrone et al., 2010; Binz, Hair, Pieper & Baldauf, 2013; Binz et al., 2017).

Since family members view the company as an extension of their own identity (Dyer, 1992), they are highly committed to the success and well-being of both the company and the family (refer to Section 2.6.2) and are especially focused on preserving a positive family business image and reputation (Sharma & Manikutty, 2005; Westhead, Wright & Ucbasaran, 2001). Family members manifest a strong sense of attachment and identification to the family business (Björnberg & Nicholson, 2012). Because family enterprises are characterised by deep involvement of family, it is mostly natural for family members to identify with the business (Sharma, Chrisman & Gersick, 2012).

Zellweger et al. (2013) emphasised the role of organisational identity in non-economic goals, stating that even though all types of businesses exhibit other non-financial or non-economic goals, only family businesses are tied to a family’s identity, which results in non-economic family goals. Family members of family businesses can deeply identify with their businesses (Zellweger et al., 2010) and are likely to be sensitive about the firm’s external image (Micelotta & Raynard, 2011). Zahra et al. (2008) highlighted that commitment to the family business is closely linked to personal identification to the business. The owning family may seek to reinforce the identity of the business as a stable, ongoing organisation through intra-family succession (Zellweger et al. 2013), influencing the intention to transfer the business to the next generation (refer to Section 2.6.1).

Family-based brand identity was shown to enhance family businesses’ ability to persuade consumers to make purchasing decisions, based on the family’s identity (Binz, Ferguson, Pieper & Astrachan, 2017; Craig et al., 2008). In the case of the South African wine industry, many wine brand names directly relate to the owning family, such as Sadie Family Vineyards, Raats Family Wines, De Wetshof, Leeuwenkuil Family Vineyards and Bosman Family Wines. It can therefore be posited, that the role of the family identity is particularly closely identified with the winery and its products. An Italian wine industry study by Monti and Salvemini (2014) suggested that identity as a non-economic family goal can influence family businesses. They suggested that specifically the founders’ identity can play a significant role in strategic decision-making, including innovation.

Family owners' identity is often inevitably tied to the business, especially when the firm carries the owners' family name. The reputations of family and business are then inevitably interrelated (Leitterstorf & Rau, 2014). Harm to the business can therefore also result in a reputational loss for the family, negatively impacting socio-economic wealth (Deephouse & Jaskiezicz, 2013). It can be argued that with a close link between family and firm reputations, any damage caused by unsuccessful innovations equally damages the family's and firm's reputation as well as the family's socio-economic wealth. The risk of failure may subsequently lead to a lower degree of innovativeness.

However, a recent study by Gast et al. (2018) suggested that when the identities of the family and the firm are strongly intertwined, innovation-related decisions may be framed in a long-term perspective and urge family businesses to invest in innovation to remain competitive and to retain positive identity endowments from the firm in the long run.

2.6.3.3. Community contribution

Fulfilling a social purpose facilitates the owner family to take pride in the business and build a stronger sense of identity (Aronoff & Ward, 2000), and to have a powerful effect over time. In Aronoff and Ward's (2000: 31) own words:

As business passes into the third, fourth and fifth generation of family ownership, we have found the value that commits family shareholders most strongly to ownership is the belief that the family business is in some way making a meaningful difference to society.

PricewaterhouseCoopers (PwC) (2014: 2) highlighted commitment to communities as a stand-out quality that distinguishes family businesses from their non-family counterparts. This is supported by Dyer and Whetten (2006), who found a greater concern for social issues on the part of family businesses. Hoffman, Hoelscher and Sorenson (2006) contended that family businesses are unique in that the family members share a moral infrastructure, which is transferred to the business and influences the business culture. Family businesses are posited to be especially proactive in their surrounding communities and support stakeholders in their geographic area (Campopiano, De Massis & Chirico, 2014). The #WineforGood initiative (Bower, 2019) promotes the numerous community development projects in the South African wine industry. These initiatives include education, health, sport and art development programmes.

In the present study, community contribution as a non-economic family goal was measured with the single item measure: "It is important that the business makes a meaningful contribution to the community". Scholarly research yielded mixed results on the relationship between social responsibility and family businesses: Some studies supported the idea that family businesses are more socially responsible than non-family businesses (Berrone et al., 2010; Cennamo, Berrone, Cruz & Gómez-Mejía, 2012), whereas other studies found that this is not the case (Bingham, Dyer, Smith & Adams, 2011; Kellermanns et al., 2012).

Socio-economic goals of family businesses, according to enlightened self-interest theory (Aram, 1989), can be motivated by the belief that contributing to the community will garner support from the community and positively influence business performance (Besser & Miller 2001; 2004), as well as the social status of the family (Li et al., 2015). This is supported by a study by Peake, Davis and Cox (2015), which suggested that family businesses may be partially motivated to “do good” in visible forms to protect their own interests. Reid, Anglin, and Short (2017) provided evidence that supports a positive linkage between family business influences on family business identity and corporate social investment.

Based on social capital theory (Adler & Kwon, 2002), motivation can also be rooted in business owners’ becoming part of a network of relationships within the community, which fosters cooperation and work towards common goals (Besser, Miller & Perkins, 2006). Family members aim to preserve close and enduring ties with communities and individuals within and around their firm (Miller & Le Breton-Miller, 2005). This entails family businesses often demonstrating solidarity with their employees (Uzzi, 1997) and creating trust (Coleman, 1988) with non-family stakeholders, including customers (Miller, Lee, Chang & Le Breton-Miller, 2009).

According to Athanassiou, Crittenden, Kelly and Marquez (2002: 147), usually, a family business culture has a close relationship with the local community’s culture and the community culture also influences the culture of family businesses. Family businesses may subsequently have unique perspectives of social behaviour due to the family’s ties to the community (Niehm, Swinney & Miller, 2008). Diaz-Moriana et al. (2018) suggested that a conserving innovation (refer to Section 2.6.2.1) was associated with community connectedness and committed innovations, aimed at the long-term sustainability of the community.

In a study featuring a sample that comprised many businesses from the agricultural sector, Niehm et al. (2008) found that commitment to the community was positively and significantly associated with business performance. Niehm et al. (2008) posited that family business operators felt successful in tandem with feeling committed to their community. Their study also identified a strong relationship between community support and gross business income. The wine industry study by Morton and Podolny (2002: 7) mentioned “rural and social pursuits”, such as paying employees more than the marginal product, as forms of wine industry socio-economic non-economic goals.

2.6.3.4. Job creation

Job creation for family members is an established topic in family business research (Andersson, Carlsen & Getz, 2002; Chrisman et al., 2004; Chua, Chrisman & Steier, 2003). Hauswald, Hack, Kellermanns and Patzelt (2016) suggested that family businesses jobs are uniquely perceived, and that family influence is often associated with trustworthiness, security and stability. However, family influence is also associated with inflexibility and resistance to change (Pieper et al., 2013). Creating jobs was also listed as a key target of the South African wine industry as part of VinPro’s industry

targets for 2025 (SA Wine and Brandy Portal, 2016). The present study measured job creation as a non-economic goal with the single item measure: “The business needs to provide job opportunities for the next generation”.

While the question does not directly limit the job creation for family members, the phrase “for the next generation” does imply that it specifically refers to the next generation family members. Zellweger and Nason (2008) specifically considered non-economic goals from a stakeholder perspective and highlighted jobs for the next generation, as well as harmony (refer to Section 2.6.3.1), as goals pertaining to the family as a key stakeholder. According to Eddleston and Kidwell (2012), because norms from the family transfer to the business, family business leaders often feel compelled to offer family members jobs and promotions, often despite their lack of capabilities. Stewart (2017) identified jobs for the next generation (versus outside employees based on merit) as a key source of conflict in family business. The present study posits that creating jobs for the next generation is associated with higher levels of innovation, based on the commitment associated with socio-economic wealth, to retain the business in the control of the family (Berrone et al., 2012: 259).

2.6.4. Relationship conflict

Relationship issues have been identified as important aspects to consider, when evaluating the sustainability of family businesses (Sharma, 2004; Tucker, 2011). This intersection of business and family – which is inherently intertwined in family businesses – could often represent a source of conflict within the business (Kellermanns & Eddleston, 2004). Some of the most challenging conflicts in family businesses are often the result of long-term processes and developments, rather than one-time events (Rhodes & Lansky, 2013). Unlike in other organisational forms, the effects of conflict on performance cannot be completely understood without taking into account the influence of psychodynamic effects of family relationships in family businesses (Kellermanns & Eddleston, 2004). Based on this behavioural implication of family influence, the present study argues that relationship conflict is an inherent part of family business and should be considered as a component of family essence. Relationship is also a dimension of conflict in the present study (refer to Section 2.9). Relationship conflict as a dimension of family influence is studied as a moderator of task conflict and the different dimensions of innovation (refer to Figure 1.2).

Cassia et al. (2012: 2913) highlighted conflict as a major issue in family business research, suggesting that the “mixture of blood and professional relationships” between family members impacts innovation. Relationship conflict may limit the information processing ability (Simons & Peterson, 2000) and positive contributions of effort and participation of family members, because group members spend their time and energy focusing on each other rather than on the group’s task-related problems (Kidwell, Kellermanns and Eddleston, 2012). The present study argues that relationship conflict is a possible moderator of the relationship between task conflict and innovation, based on the negative impact that relationship conflict can have on the possible advantages of task conflict (Cosier & Harvey, 1998: 75).

2.7. FAMILY INFLUENCE AND BUSINESS PERFORMANCE

The relevance of family influence in businesses is expressed by the influence that this in turn has on business performance, as highlighted by Chua, Chrisman and Sharma (1999), Miller and Breton-Miller (2006), Sirmon and Hitt (2003), and Venter (2003). As innovativeness is known for its positive effect on business performance (Hult et al., 2004), family influence's impact on performance is discussed in this section.

The effect of family influence does not seem to be consistent, with results of empirical studies about family influence's effect on business performance varying from positive (Anderson & Reeb, 2003; Lee, 2006) to negative (Westhead & Howorth, 2006), while some studies (Castillo & Wakefield, 2006; Sciascia & Mazzola, 2008; Villalonga & Amit, 2006), found no association. A meta-analysis of family businesses and performance by O'Boyle, Pollack and Rutherford (2012) concluded that the empirical evidence is inconclusive. Without convincing results about the overall impact of family influence on performance, reasons for varying results and therefore varying impacts of family influence have become an important consideration and research topic for family business researchers.

Acknowledging that family businesses are heterogeneous, the impact of family influence on performance can vary. Carnes and Ireland (2013: 1404) suggested that "family influence can be viewed as a continuous concept ranging from businesses with very high family involvement, having a strong familiness resource set, to businesses with no family involvement and therefore having no familiness resources". Konig et al. (2013) supported the suggestion of ranges of influence, arguing that varying levels of overlap between family and business systems imply that family influence is a continuous dimension, ranging from low to high, along which all companies can be arrayed.

Chirico and Bau (2014) and Minichilli, Corbetta and MacMillan (2010) argued that family influence can have a positive and negative impact on performance, which Habbershon et al. (2003), referred to as distinctive and constrictive family influence, respectively. The reasons why family influence is said to potentially have a positive or negative impact on performance are covered in further detail below.

From a broader theoretical family business approach, the contradictions involving agency theory and stewardship theory could also be scrutinised in terms of the impact that these prominent considerations could have on performance. As discussed in Section 2.4.1, agency theory can be problematic if goals are not aligned in the family, thus adversely affecting business performance (Lubatkin, Durand & Ling, 2007; Schulze et al., 2002), but can also lead to advantages through savings in management monitoring or incentives (Dyer, 2010; Schulze et al., 2003). Stewardship theory's (Section 2.4.1.2) suggested advantages through cooperative behaviour could positively contribute to business performance (Gómez-Mejía et al., 2007; Tosi et al., 2003).

Kim and Gao (2013: 266) challenged the classical agency theorists by suggesting that a "family business does not necessarily comprise a homogenous group of people with identical and

harmonious goals, but rather consists of a heterogeneous group of people with diverse motivations and aspirations". These authors cited prior studies by Chrisman et al. (2004; 2007) and Schulze et al. (2003) to emphasise the heterogeneity of interests and their potential conflict among family members, suggesting that it is illogical to assume that family owners and family business managers have identical economic and non-economic interests (Chrisman et al., 2004; Corbetta & Salvato, 2004; Dyer, 2006; Habbershon et al., 2003; Schulze et al., 2002).

Over and beyond conventional agency theory, constrictive or negative examples of family influence also include governance and financial matters, such as restricted access to capital markets (Grassby, 2000) and therefore the possibility of pursuing investments and lack of professional management and human resources (Chua, Chrisman, & Bergiel, 2009). In the South African wine industry, Distell is the only notable wine business that is listed on the Johannesburg Stock Exchange (JSE), with most family-owned businesses requiring other means of access to capital, often relying on savings of the previous generation. In terms of human resources, the lack of engineers is one example of a void in advanced efficiency in the wine industry by the industry body, VinPro (Basson, 2015).

Other constrictive examples of family influence include more personal and relationship matters, such as conflict, nepotism and favouring of unqualified managers (Sciascia & Mazzola, 2008: 341; Villalonga & Amit, 2006). From a wine industry perspective, examples could include unqualified family member winemakers who merely apply practices used by previous generations, without the theoretical foundation to innovate, renew or improve the winemaking process or eventual product.

Besides the advantages noted from agency and stewardship theory, positive or distinctive influences notably include the long-term orientation (refer Section 2.6.2.1) that family involvement encourages (Anderson & Reeb, 2003; Kim & Gao, 2013). This is particularly pertinent in the wine industry, where vineyards are a long-term investment and reputational value, by means of a quality track record over several vintages, is highly regarded. From a wine industry perspective, Maguire, Strickland and Frost (2013) argued that family influence can be viewed as a point of difference and that family influence is legitimised as a point of attachment for consumers and employees through reference to authenticity, which also benefits long-term reputational value (refer to Section 2.6.2.1).

The previous section provided evidence that family influence could have both a positive (distinctive) and negative (constrictive) impact on business performance. Practical examples of distinctive and constrictive family influence in the wine industry were provided. However, the current study intends not to investigate the existence of distinctive and constrictive family influence, but to provide insights about the relationship between family influence and conflict and the potential moderating impact on innovation. Potential moderators to the impact on family businesses are therefore of particular interest. Olson et al. (2003), for example, argued that whether the net effect of the family is positive or negative depends on how the family manages the routine overlap between the family and the business and how it responds to disruptions. Villalonga and Amit (2006: 413) posited that, whether

family businesses are more or less valuable than non-family businesses, critically depends on how ownership, control and management are defined.

Rutherford et al. (2008: 1104) and Sciascia et al. (2013: 331) suggested that there are numerous competing theories about the relevance of family influence with regards to performance. Recent studies that have investigated the relationship between business performance and family influence, reported a non-linear relationship (De Massis, Kotlar, Campopiano & Cassia, 2013; Sciascia & Mazzola, 2008), with scholars attempting to explain inconclusive results (Mazzola, Sciascia & Kellermanns, 2013; Miller, Minichilli & Corbetta, 2013). These explanations considered moderators, such as the study by Mazzola et al. (2013), which showed an inverted U-shaped relationship between family involvement in management and ownership and return on assets. The study by Mazzola et al. (2013) also found a positive relationship between family involvement in management and return on equity, based on stewardship (refer to Section 2.4.1.2) and stagnation, which entails resource restrictions (Chandler, 1990; Grassby, 2000) and conservative strategies (Allio, 2004; Poza, Alfred, & Maheshwari, 1997) that may ultimately reduce growth and threaten survival (Morck & Yeung, 2003).

In a study that particularly investigated succession, Mitchell, Hart, Velcea and Townsend (2009: 1210), argued that family influence, along with the complex family relationships that underlie it, is an important force within family businesses that moderates relationships between certain individual-centric attributes of successors and successor discretion. They added that family-based social capital is an important positive moderator of successor discretion and the effectiveness with which the successor manages the power associated with this role.

A meta-analysis by Carney, Gedajlovic, Heugens, Van Essen and Van Oosterhout (2011) of the influence of family involvement and ownership on the performance of public family businesses, indicated a positive association. These results do not necessarily reflect the situation in the South African wine industry, since these businesses are smaller and not publicly owned. Like family businesses themselves, the impact of family influence is not homogenous, with numerous moderators and other influences which have contributed to different theories about the relevance and benefits of family influence, including succession (Mitchell et al., 2009), family involvement in management (Mazzola et al., 2013), as well as professional competency and conflict (Sciascia & Mazzola, 2008).

It can be concluded that family influence not only moderates business performance and innovation, but that the impact of family influence (distinctive and constrictive) depends on the individual circumstances. Section 2.8 discusses the impact of family influence on innovation in more detail.

2.8. INNOVATION AND FAMILY INFLUENCE

2.8.1. Introduction

This section discusses the role of family influence on innovation in family businesses. The positive relationship between innovativeness and business performance is well established and applies equally to all businesses, including family businesses (Hatak, Kautonen, Fink & Kansikas, 2016; Smith, Hair, & Ferguson, 2014). However, establishing a successful innovation process, remains challenging for many businesses, including family businesses (Craig & Moores, 2006). Innovation in family businesses is regarded as an understudied phenomenon and research studies on innovation in family business have yielded some mixed results (Baykal, 2019: 210).

Citing Bessant et al. (2005), Knight (1967), Zahra and Covin (1994) and Zaltman, Duncan and Holbek (1973), Damanpour (2010: 997) defined 'innovation' as the development and use of new ideas or behaviours, where a new idea could pertain to a new product, service, production process, organisational structure or administrative system. 'Innovativeness' is commonly viewed as being critical in providing competitive advantages (Bresciani, Thrassou, & Vrontis, 2013) in any market (Avlonitis & Salavou, 2007). Authors have also posited that innovation is a necessary condition for family business continuity (Zahra, 2005) and may contribute to the long-term survival of a business (Leenen, 2005). According to Zahra's (2005) study, businesses must constantly seek ways to recognise and exploit new opportunities, as well as refine existing resources in order to successfully grow and compete. This view is supported by Cufaude (2009: 32), who suggested that the changing environment, and associated opportunities and threats, require innovative approaches to react and respond to the environment's changing nature. Craig and Moores (2006) highlighted that there are strong observed interactions between innovative strategy and environmental uncertainty, with an ability to adjust to innovative strategy. As a marketplace becomes more competitive, like the global wine industry (Van Rooyen et al., 2011), it is likely to see increased interest in understanding the factors associated with innovation (Llach & Nordquist, 2010).

Block (2012) and Chen and Hsu (2009) argued that family businesses tend to allocate fewer resources to innovation-based inputs such as R&D. This is supported by a study of 15 173 observations over a period of 10 years by Nieto, Santamaria, and Fernandez, (2015), which suggested that family small and medium-sized enterprises (SMEs) invest less in R&D due to higher risk aversion and resource constraints. According to Nieto et al. (2015), family businesses are more likely to achieve incremental than radical innovations. This finding is supported by a study by Carnes and Ireland (2013), which found that family influence is likely to reduce major innovations; but once a decision is made, familiness can effectively facilitate innovation. An empirical study about innovation in German SMEs, undertaken by Classen et al. (2014), suggested that family-owned businesses have a higher propensity to invest in innovation than non-family businesses, but that family businesses invest less intensely in innovation than their non-family counterparts.

Morck, Stangeland and Yeung (2000) posited that family businesses controlled by heirs were less active in R&D than their non-family counterparts of the same age and size in the same industries. Classen et al. (2014) described innovation investments in family-owned SMEs as a “double-edged sword”, because allocating funds to innovation enhances a business’s likelihood of long-term survival (Esteve-Pérez & Mañez-Castillejo, 2008), but intensive innovation investments also entail substantial risks (Latham & Braun, 2009). Bergfeld and Weber (2011) highlighted that innovation was not perceived to be a cost position in the area of R&D, but rather an investment in long-term success. Notably, these researchers also found that internal family dynamics (such as sibling rivalry and nepotism) might be of minor relevance, as long as the capability to innovate is maintained over the long term.

Responding to mixed results about investment in innovation by family businesses, Duran, Kammerlander, Van Essen, and Zellweger (2016) conducted a meta-analysis based on 108 primary studies, indicating that family businesses invest less in innovation, but do so more efficiently, resulting in a higher innovation output.

Gudmundson, Tower and Hartman (2003) reported that family businesses introduced more new products and services than non-family businesses, a notion that is supported by Ayyagari, Demirgüç-Kunt and Vojislav (2011) for these businesses in the developing world. In a study of SMEs in Italy, Pittino and Visintin (2013) compared product innovation strategies carried out by family businesses versus non-family businesses and found that family businesses prefer conservative innovation strategies. Pittino and Visintin (2013) found that family businesses that decided to undertake more high-risk projects, were more likely to rely on external sources through strategic alliances.

Gómez-Mejía et al. (2007) proposed that the interaction between the family unit and business can enhance entrepreneurial behaviour. This is supported by Zahra et al. (2004), who suggested that being a family business could be positively associated with corporate entrepreneurship and that organisational culture could have a greater influence on the entrepreneurship of family businesses than that of non-family businesses. Kellermanns et al. (2008) highlighted potential family business advantages by suggesting that family businesses drive an entrepreneurial spirit, because the business leadership knows that their behaviour and decisions will amass to future generations. The leaders of family businesses may therefore be particularly motivated to pursue entrepreneurial ventures.

Bergfeld and Weber (2011) found that in successful German family businesses, entrepreneurial understanding and spirit comprised the founding ground for innovativeness, but added that the key challenge was to make such an attitude a company routine – even when the original entrepreneurs were not actively managing the companies any more. The businesses studied by Bergfeld and Weber (2011) suggested that an entrepreneurial spirit would enable family businesses to stay successful and thus in independent/family-controlled existence over the long-term. Innovation was

seen to be an insurance for strong competitive positions of the companies and an enabler of organic growth, thus promoting the family's capital assets that are tied to the company.

In a study that investigates new technology adoption by family businesses, Souder et al. (2016) provided evidence of greater reluctance towards new technology adoption among businesses with lower family influence than higher family influence. According to Craig and Dibrell (2006), family involvement could lead to more flexible decision-making processes and structures, which are important to innovation efforts, since "shifting foci and methods is commonly necessary to respond successfully to changes in external and internal conditions that a business encounters when pursuing innovation" (Carnes & Ireland, 2013: 1400). This finding is supported in a South African survey of family businesses (PwC, 2013), which found that owners of family businesses believe that they are more agile and flexible than their corporate competitors.

Konig et al. (2013), however, suggested that family influence is a limitation in situations that require fast recognition, aggressive adoption, and flexible implementation routines, based on the strong desire for continuity and consistency in family businesses. Konig et al. (2013), argued that once decisions to adopt have been concluded, family influence can provide the ability to implement adoption decisions faster and to sustain investments over a long period. Conversely, while Verbeke and Kano (2012) suggested that family businesses are not able to compete in industries with high levels of innovation, Patel and Chrisman (2013) argued that these businesses seem to be capable of aggressive and effective responses when exploratory innovation is deemed necessary. These mixed findings on the innovative capabilities of family businesses support Penney and Combs' (2013) comment that the heterogeneity of families, in terms of their cohesion and adaptability, is likely to exert a significant influence on innovation.

As suggested by the fragmented findings on the impact of family influence on innovation, family influence can have both positive or negative implications, as eloquently described by Kellermanns et al. (2012: 86): "We argue that the family can be both a help and a hindrance to the business, and that the various dimensions of family influence impact the effectiveness of family business innovativeness in terms of business performance". This was also acknowledged by Carnes and Ireland (2013: 1402), who said that innovation within family businesses is a complex task, adding that the understanding of these tasks and the processes associated with them remain incomplete.

Some researchers have suggested that non-family managers are necessary to bring to family businesses knowledge and expertise that may not be readily available within the family (Miller et al., 2013). Non-family managers also have new ideas to share with the family because of their diverse backgrounds (Nicholson, 2008). The influence of non-family managers improves significantly the ability of a business to innovate and grow through their skills and expertise (Gedajlovic, Lubatkin & Schulze, 2004).

Responding to the heterogeneous findings of innovativeness of family business, Chrisman, Chua, De Massis, Frattini and Wright (2015) proposed the 'Ability and Willingness Paradox' framework, by integrating non-economic factors and the willingness view next to the predominant ability view in existing research. These authors suggested that family businesses, "owing to the virtually unfettered discretion of family owners and the involvement of family managers, have superior ability to innovate compared with their non-family competitors", but that theory also specifies that "owing to their unique set of economic and non-economic goals, family owners are often willing to engage in idiosyncratic strategies, which in many cases means they innovate less rather than more" (Chrisman et al., 2015: 317). Hauck and Prügl (2015: 105) highlighted that the relationships between different non-economic factors and the willingness to innovate are, to the best of their knowledge, far from being fully understood in the existing research. De Massis et al. (2014) suggested that ability and willingness are two necessary but individually insufficient conditions required for family-oriented particularistic behaviour: 'Ability' is defined as "the discretion of the family to direct, allocate, add to or dispose of a firm's resources" (De Massis et al., 2014: 6), and emerges from family involvement in the firm's ownership, governance and management, including latitude in choosing from among a range of structural, strategic options. Willingness is the "favourable disposition of the involved family to engage in distinctive behaviour" (De Massis et al., 2014: 347), and drives the owner to lead the firm in a distinctive direction that reflects the family's goals (Bozec & Di Vito, 2019).

Responding to mixed findings, De Massis et al. (2015) called for more detailed research on the "black box" of innovation in family businesses, including the influences that drive the innovation output. This call for research was supported by Werner, Schröder and Chlosta (2018), who stated that the ambiguity of existing results on innovation points to the need for more finely-grained research about the drivers of innovation.

In another response to different findings on the impact of family influence on innovation, Röd (2016) analysed 78 peer-reviewed journal articles on innovation in family businesses. This review suggested that factors such as national and local conditions or the industry in question, may not necessarily differ between family and non-family businesses, but that their impact on the innovation process may vary depending on family ownership, management, governance structures, or generational effects. Duran et al. (2016) highlighted the innovation input-output relationships of family and non-family businesses to be dependent on country-specific factors. The present study responds to the calls of specific research about the potential family influences that motivate innovation (Diaz-Moriana et al., 2018), through a regional, industry-specific study. The next section evaluates innovation in terms of family experience – a dimension of family influence in the present study.

2.8.2. Innovation and family experience

Craig and Moores (2006) proposed that life stage influenced both the level of innovation and its relationship with information acquisition within the family businesses. These authors indicated that established family businesses appear to place substantial importance on innovation practices and strategy. A study of technology-based German manufacturing businesses (Lichtenthaler & Muethel, 2013) showed that family involvement could be positively related to innovation capacities. These authors suggested measurements that evaluate family involvement as a continuous, rather than a binary variable.

The unique attributes associated with the process of family business succession also influence the way these businesses innovate (Carnes & Ireland, 2013). Sciascia et al. (2013) suggested that the highest level of entrepreneurship is achieved when two generations are involved, rather than only one. They added that involving a second generation enriches family managers' knowledge and perspectives, thus promoting constructive debate and knowledge integration. Conversely, a study by Kellermanns et al. (2012) suggested that businesses whose ownership is concentrated within one generation seem to translate this innovativeness more effectively into higher levels of performance than do businesses in which several generations are involved, which could be a result of intergenerational conflicts.

Generational effects may have an influence on business performance: Ehrhardt, Nowak and Weber (2007) found strong performance in the founder generation and even stronger performance in the second generation. The third and fourth generations did not maintain the same levels of performance. After receiving control from the founder, the second generation, on average, increased performance by one percent. The third generation in turn reduced performance by 15 percent. The fourth generation performed slightly worse than the third. A more recent German study by Werner et al. (2018) showed that the founder generation tends to be the most innovative compared to succeeding generations and that from the second (successor) generation, the innovation output decreases for product innovations. For process innovation, no generation differences were found.

Craig and Moores (2006) found that innovation is related to life stage, with earlier life stage businesses having greater levels of innovation. Supported by an empirical study, Bammens et al. (2010) argued that the relatedness resulting from family involvement fosters an organisational culture that leads to innovation advantages – particularly in early-generation businesses. Classen et al.'s (2014) study also found that younger family businesses were generally the most innovative, also suggesting that the innovation investment behaviour is more complex and multi-faceted in family SMEs than in large family businesses.

However, studies also exist that suggest that later-life stage businesses are likely to present higher levels of innovation. According to Dibrell, Craig, and Hansen (2011: 471), the businesses in the mature stage of their organisational life cycle may have advantages over those in earlier stages, based on the use of capital in the provision of superior products and services. An empirical study by Koberg, Uhlenbruck and Sarason (1996) in high-technology businesses found that formally structured young businesses were less innovative than informal ones and that in older organisations, formalisation had no negative impact on innovation. It can be argued that family businesses inherently entail some structure based on family hierarchy and that this could influence innovation and life stage, compared to non-family businesses.

Laforet (2013) suggested that older family businesses involve non-family employees in the generation and evaluation of new products and ideas, while young family businesses involve family employees in new product launches. Non-family involvement in decision-making is therefore limited when the business starts, but increases as the business becomes more established. Laforet (2013) found that young businesses are not found to take up training courses, attend workshops/seminars, while old businesses are found to engage others outside the business.

Morris, Williams, Allen and Avila (1997) argued that, while many aspects of organisational life stage frameworks apply directly to family businesses, they usually assume a separation of ownership and management and therefore accept that the organisation outgrows the managerial capabilities of the founding entrepreneur, ignoring issues of succession. These authors added that life stage frameworks focus on business sub-systems, without considering the unique complexities of family businesses. Another reason why it could be difficult to accurately identify life stages is that families change in the natural cycle of life, with the occurrence of marriages, births, perhaps divorces, and eventually, deaths (Rhodes & Lansky, 2013).

Hoy (2006) suggested that the ownership structure of the business could reflect the developmental stage of the business. If ownership resides with one generation, the business is typically held by the founder or a married couple – suggestive of a business in the early stages of its life cycle. High dispersion of ownership indicates ownership control by multiple family branches, when the business is likely to be in a later stage of development.

In a framework that specifically pertains to family businesses, Sharma and Salvato (2011) proposed four different stages of innovation in a firm's life cycle, based on market and product life cycle stages (Table 2.6).

Table 2.6: Exploiting and exploring new opportunities over life cycle stages

		Product/service life cycle stage	
		Introduction or growth	Late maturity or decline
Market life cycle stage	Introduction or growth	Cell 1	Cell 3
		Same market/s, same product/s Exploitation advantages: <ul style="list-style-type: none"> • Incremental innovation sufficient for performance advantages • Causation logic works • Existing businesses enjoy a competitive advantage • Fixed investment already made in assets and learning 	Same markets – new products needed Combination of exploitation and exploration advantages: <ul style="list-style-type: none"> • Incremental and progressive innovation needed for performance advantages • Causation logic which works though transition towards effectuation is helpful • Existing family businesses that combine exploitation with exploration will perform better than others
	Late maturity or decline	Cell 2	Cell 4
		Same product/s – new markets needed Combination of exploitation and exploration advantages: <ul style="list-style-type: none"> • Incremental and progressive innovation needed for performance advantages • Causation logic which works though transition towards effectuation is helpful • Existing family businesses that combine exploitation with exploration will perform better than others 	New products/markets needed Exploration advantages: <ul style="list-style-type: none"> • Radical innovation needed for performance advantages • Effectuation logic necessary • Family champions of change and continuity must have referent power, future orientation, courage to use, and astute mix of family and non-family knowledge and resources • Existing family businesses that focus on exploration will perform better than others

Source: Sharma and Salvato, 2011.

Sharma and Salvato (2011) argued that in the early stages of a family business's life cycle, products or markets are in their introductory or growth stages and causal logic, focusing on exploiting the potential of current markets and products through incremental innovations (Cell 1, Table 2.6). This is likely to affect performance advantages. As these markets become saturated, the tacit or procedural knowledge advantages are likely to reduce. When either products or markets transition into late maturity or decline stages (Cell 2 and Cell 3, Table 2.6), a combination of incremental and progressive innovations enables the maximisation of the exploitative advantages. At this stage, in which a business must transcend its dependence on new markets and products (Cell 4, Table 2.6), the development of totally new products and markets necessitates investments of significant time and resources.

Controlling families of long-lived businesses ensure that adequate investments are made in exploration of longer term "harvest projects", furthering a chain of discoveries on a continuous basis (Miller & Le Breton-Miller, 2005). According to Sharma and Salvato (2011: 1201), "family champions of change and continuity have been found effective in moving a business from its focus on

exploitation, causal reasoning, and incremental and progressive thinking, towards radical innovations enabled by effectual reasoning” (see Table 2.7).

2.8.3. Innovation types

This section discusses different types and definitions applied in family business research. First, the different types of innovation processes and innovations are discussed. This is followed by a more in-depth overview of the different types of organisational innovation, including the innovation types measured and evaluated in the present study.

2.8.3.1. Types of innovation based on opportunities

Sharma and Salvato (2011) differentiated between the exploitation of already discovered or created opportunities and the exploration of new opportunities. They argued that a combination of innovation levels is required for a continuous flow of exploitable ideas, adding that successful dynastic family enterprises engage in a continuous cycle of innovation to ensure revenue streams in the short, medium and long term. Further support for the process approach to innovation is presented by De Massis et al. (2013: 2), who defined the innovation process as “the set of activities through which a business conceives, designs, manufactures, and introduces a new product, technology, system, or technique”. This definition captures the totality of innovation in the form of (i) inputs (R&D investments), (ii) activities (such as search behaviours and decision processes) and (iii) outputs (patents and new goods or services).

According to Carnes and Ireland (2013), using this conceptualisation of innovation as a three-stage process for the purpose of categorising the extant results, produces greater consistency in the overall findings regarding innovation in family businesses. Providing insights into the “activities” section of the process approach to innovation, Sharma and Salvato (2011) suggested that family businesses exhibit two types of opportunity recognition, namely causal reasoning and effectual reasoning. This classification is presented in Table 2.7.

Table 2.7: Types of opportunity recognition

Causal reasoning	Begins with predetermined goals and a given set of means. The aim is to find the most efficient alternative to accomplish the goals with the given means.
Effectual reasoning	Does not begin with specific goals. Instead, it begins with a given set of means and allows the goals to emerge contingently over time, based on the imagination and aspiration of entrepreneurs and those with whom they interact.

Source: Sharma and Salvato, 2011.

The causal rationality is likely to be useful in the opportunity exploitation stage (Table 2.5) as the aim is to achieve maximum returns in a given set of markets and products. It can also be helpful in creating new opportunities in domains related to current operations of the business (Sharma & Salvato, 2011). On the other hand, as explained by Sarasvathy, Simon and Lave (1998), effectual rationality is useful in creating opportunities in novel domains, in other words, when there is no precedent of the products and/or markets an entrepreneur is trying to create. In such cases, the means required or ends to be achieved are unclear.

2.8.3.2. Types of innovation based on motive or degree

In a German study of technology family businesses, Bergfeld and Weber (2011: 87) presented further support to the process approach to innovation, suggesting that entrepreneurial family businesses interpreted innovation as more than a cost position in the area of R&D, but rather as an “investment in long-term success, business existence and family wealth”. Bergfeld and Weber (2011: 85) classified innovation as radical, progressive and incremental, based on an understanding of innovation which entails “more than mere R&D and a technology push”. These different classifications of innovation are described in Table 2.8.

Table 2.8: Classifications of innovation

Radical	<p>A radical innovation is either the presentation of entirely new technologies in markets in which the respective company is already present; in markets adjacent to existing ones; or in markets that are entirely new to the analysed company.</p> <p>Alternatively, radical innovation can also be the presentation of existing or adjacent technologies to markets that are entirely new.</p> <p>Radical innovations are characterised by high technology-related complexity and high market uncertainty. Often, they trigger significant corporate diversification. Regarding the corporate history, they are discontinuous.</p>
Progressive	<p>Progressive innovations are defined as the presentation of adjacent technologies to existing or adjacent markets.</p> <p>They can be the presentation of existing technologies to adjacent markets.</p> <p>‘Adjacent’ means that there is a certain degree of similarity to the markets and technologies in which the respective business already operates.</p> <p>These innovations can be understood as extensions of existing businesses into areas which are continuations to the existing legacy of the family business.</p>
Incremental	<p>Incremental innovations are understood to be the improvement of existing technologies in existing markets.</p> <p>They are characterised by low technology-related uncertainty and lower market uncertainty, and continue the family business’s traditional fields of business.</p>

Source: Bergfeld and Weber, 2011: 86.

The term 'innovation', according to Bergfeld and Weber (2011), has two perspectives: (i) higher scale corporate renewal and change; and (ii) daily innovation in systems, products, processes and services. The first is seen as a strategic approach to innovation, which has significant effects on the future character and position of the family businesses. The latter is described as an operational approach to innovation, often driven by external managers. Bergfeld and Weber (2011: 86) presented innovation along a market and technology axis, as illustrated in Figure 2.2.

The businesses in their sample (highly successful companies that survived in the long term and therefore present a biased view) were strong examples of continuous corporate change. In these businesses, being family-owned never triggered convictions such as "this is how we have always done things, why should we change?", but rather progressive approaches such as "being a multi-generation family business urges us to respond flexibly to our environments and develop the company further in order to secure wealth for the future generations" (Bergfeld & Weber, 2011: 88).

When Bergfeld and Weber (2011: 88) analysed the corporate histories of family businesses, they found that the sources of growth were mainly grounded in radical and progressive innovations – a shift into entirely new areas of business, the application of radically new technologies in existing fields of business or a combination of both at the same time. These radical and progressive moves were enabled by the profitable performance of the core businesses, which was driven towards continuous incremental innovation.

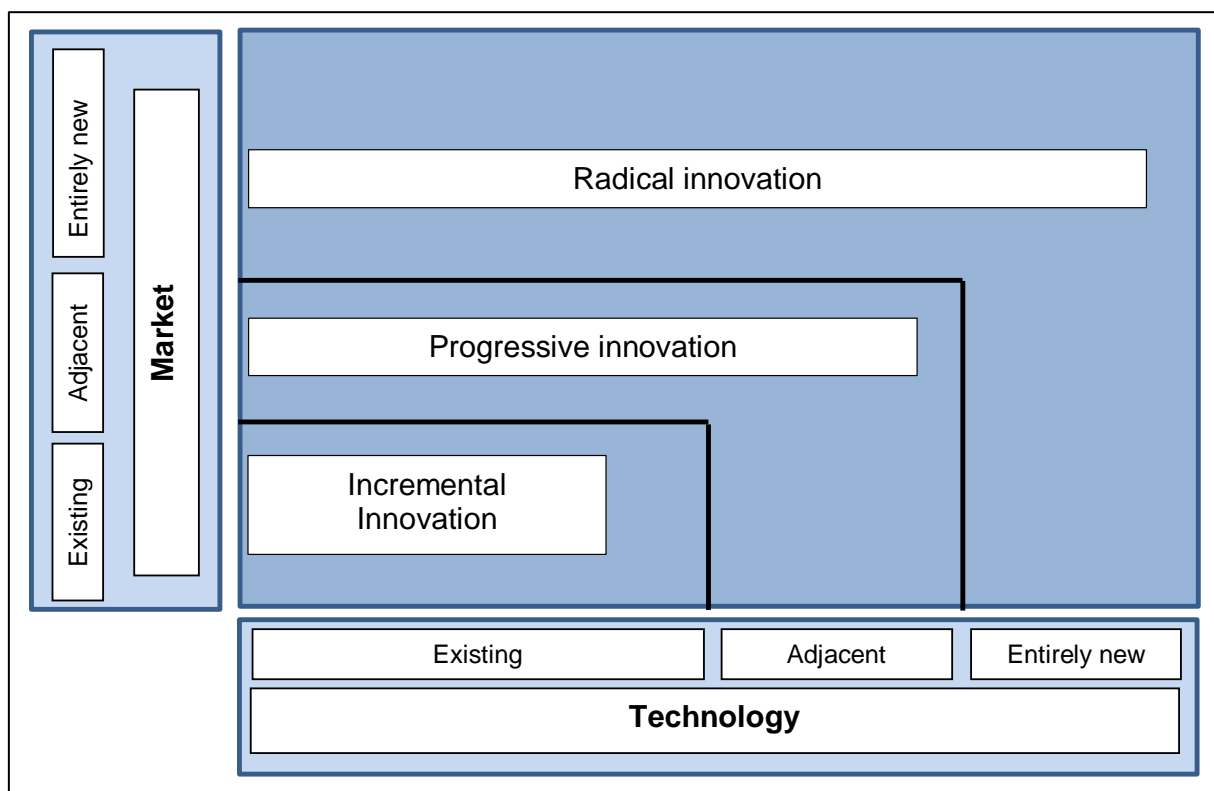


Figure 2.2: Corporate innovation along the market and technology axis

Source: Bergfeld and Weber, 2011.

A qualitative study of small Italian businesses by De Massis, Frattini, Pizzurno and Cassia (2015), however, found that family businesses largely engage in innovation processes aimed at developing and bringing to market incremental new products or services. The preference for incremental innovation instead of radical innovation could be explained by the risk of losing control, as posited through the socio-emotional wealth theory (Gómez-Mejía et al., 2007). Similarly, parsimony, resulting from the desire to preserve family resources may result in process innovation through cost-saving organisational solutions, instead of higher-risk product innovation investment. Bammens, Notelaers and Gils (2015) suggested that family businesses perform particularly well in the domain of exploitative innovations, because of their employees' spontaneous involvement in informal innovation activity, which is encouraged through socio-emotional concerns that engender more caring employment relationships.

2.8.3.3. Organisational innovation types in family businesses

The unique attributes of family businesses can result in a different approach to innovation (De Massis et al., 2015). Carnes and Ireland (2013: 1402) suggested that innovation within family businesses is a complex task, adding that the understanding of these tasks and the processes associated with them remain incomplete. It was therefore important to identify a suitable scale that measures the innovativeness of the businesses, but is still relevant to family business studies, as well as the sector that was targeted in the present study.

Technological innovation in family businesses has become a topic of increasing interest in management research (De Massis, Sharma, Chua & Chrisman, 2012). While studies by Lichtenthaler and Muethel (2013) may successfully utilise technology-focused scales for research about highly dynamic German manufacturing businesses, these measures are not particularly relevant for the South African wine industry, which has different cycles due to the agricultural foundation of this industry and less reliance on rapidly-changing technology than specialised technological manufacturing industries.

Conversely, the two-factor scale used in family business studies by Kellermanns et al. (2012: 98), comprising the statements "Our business has emphasised taking bold, wide-ranging action in positioning itself and its products or services over the past 3 years" and "Our business has shown a strong commitment to research and development, technological leadership and innovation", was deemed too simple and ambiguous for the present study.

A family business study by Che-Ha et al. (2014) utilised sub-scales for managerial, process and product innovation, which are all relevant to wine industry family businesses and provide more depth than Kellermanns et al.'s (2012) scale for innovativeness in family businesses, without focusing too much on high-tech manufacturing innovation. According to Che-Ha et al. (2014), Pennings' (1991) typology of organisational innovation was the primary source for developing these measures for innovativeness. Other sources used to establish these multi-item scales are Baker and Sinkula

(1999) for product innovation; Damanpour and Gopalakrishnan (2001), Manu and Sriram (1996), Wong and Saunders (1993) for process innovation; and Fritz (1996) for managerial innovation.

Damanpour (2010: 997) categorised product and process innovation under technological innovations, which are more directly related to primary work activities of the organisation than management innovations (Damanpour, 1991). However, Damanpour (2010) and Damanpour and Gopalakrishnan (2001), highlighted the importance of the distinction between product and process innovation: *Product innovations* have a market focus and are customer driven, while *process innovations* have an internal focus and are mainly efficiency driven (Utterback and Abernathy, 1975). Similarly, *product innovations* change what the organisation offers to the outside world, while *process innovations* change the way the organisation produces and delivers those offerings (Bessant et al., 2005).

Process innovations are defined as new elements introduced into a business's production or service operation to produce a product or render a service. Since these innovations do not necessarily result in new products, process innovation can therefore be viewed as an important consideration for incremental innovation (refer Section 2.8.3). Conversely, *product innovations* are new products or services introduced to meet an external user need (Damanpour, 2010). In the case of the wine industry, this would comprise establishing a new wine brand or style, as a result of changes in the environment or market demand.

Some studies (Westhead, 1997; Gudmundson et al., 2003; Ayyagari et al. 2011) reported that family businesses introduced more new products and services than non-family businesses. However, Cucculelli, Le Breton-Miller and Miller (2016) found that family management limited the products that renew technological capabilities, while increasing the offerings that help to open new foreign markets. Several significant product innovations have been introduced in the South African wine industry by family businesses. A key example of this is the introduction of "new varieties" into the South African industry, which was often led by family businesses. Examples include Viognier, which was first introduced to South Africa by Paarl-based family business Fairview and Chardonnay, which was infamously smuggled into South Africa by Robertson-based family business, De Wetshof (Goode, 2014). In terms of process innovation, Stellenbosch-based family-owned winery, Simonsig, was the first in the 1970s to commercially produce sparkling wine made according to the *Méthode Cap Classique*, the same method as in Champagne, France (Simonsig, 2018).

A study by Kraiczy et al. (2014) suggested that there is a positive relation between the innovation orientation of the top management team and new product portfolio performance when multiple generations are involved in the top management team. However, this relation is reversed when the ratio of family members in the top management team is very high. These findings indicate that concentrated family involvement in leadership could harm the product innovation process.

De Massis et al. (2015) investigated the differences between the product development process of family and non-family businesses. Despite earlier suggestions that these businesses tend to be

“inward looking” (Dunn, 1996), De Massis et al. (2015) found that family businesses showed high levels of decisional autonomy given to the project leader, although the family businesses relied on a relatively high number of collaborations with external sources of knowledge and technologies in their product and process innovations. This is supported by a study by Bresciani et al. (2013), where family businesses had a higher number of collaborations than their non-family counterparts (Feranita, Kotlar & De Massis, 2017). An exploratory, qualitative study by Cassia et al. (2012) found that family businesses seem to be more closed to external sources during product innovation than their non-family counterparts and that collaborations are limited only to few external subjects. The study by De Massis et al. (2015), however, highlights that family businesses have presented the superior ability to nurture and develop prosperous, long-standing relationships with the stakeholders (Miller & Le Breton-Miller, 2005). Similarly, the preference for utilising a smaller number of external sources could be explained by socio-emotional wealth (Gómez-Mejía et al., 2007; Gómez-Mejía, Cruz et al., 2011), in terms of concerns about losing control by sharing sensitive information, or in the wine industry’s case, winemaking secrets or techniques.

A study of Scottish family businesses by Dunn (1996) specifically highlighted how family businesses raise high their visibility and family name with customers, suppliers, staff and the broader community. This relates to the non-economic goal of family identity, which is measured by the present study. Dunn (1996) highlighted the importance of the commitment to the family reputation as a prevailing stimulus to create excellent and quality products (Dunn, 1996). Cassia et al. (2012) posited that the active participation of family members in the community and their contacts and relationships with key stakeholders result in alignment with customers’ needs, positively influencing product innovation. A long-term orientation (refer to Section 2.6.2.1) is also highlighted by Cassia et al. (2012) as pivotal in terms of originating product innovation with a long-term thrust, suggesting that the long-term view resulted in less pressure for short-term paybacks and more attention to ensure the longevity of the business (Bertrand & Schoar, 2006).

Managerial innovation has not conceptually or empirically been examined as widely as the other types, at the business level of analysis (Damanpour & Aravind, 2011), with most of the literature on innovation still focusing on technological product and process innovation (Birkinshaw et al., 2008). ‘Managerial innovations’ can be defined as new organisational structures, administrative systems, management practices, processes, and techniques that could create value for the organisation (Birkinshaw et al., 2008). Damanpour and Aravind (2011) suggested that managerial innovation comprises organisational, administrative, and management innovations. ‘Organisational innovation’ refers to changes in internal organisational structure and procedures that facilitate organisational change and growth. ‘Administrative innovations’ are those which affect the nature, location, quality, or quantity of information that is available in the decision-making process (Kimberly, 1981). Lastly, this study adopts the definition by Walker, Damanpour, and Devece (2011) for management innovation, namely: new approaches to devise strategy and structure in the organisation, modify the organisation’s management processes and motivate and reward its employees. Although

managerial innovation is regarded as a specific type of innovation, managerial innovations, such as business model changes, is not likely to lead to value creation without technological process and product innovations (Chesbrough, 2010).

Battisti and Iona (2009) posited that managerial innovations are not as readily adopted in family businesses, suggesting that a more concentrated ownership structure reduces the need to adopt management practices. Non-family businesses require more centralised management systems and are thus quicker to adopt managerial innovations. Based on the particular internal social and cultural aspects of family businesses (refer to Section 2.6), differences in family and non-family businesses with regard to management innovation could be more evident in managerial innovation than in technological innovations (Birkinshaw et al. 2008; Kraus, Pohjola & Koponen, 2012). For example, family businesses have less formality and are more de-centralised (Craig & Moores, 2006; De Massis et al., 2015) and flexible in their decision-making processes (Craig & Moores, 2006).

2.9. FAMILY BUSINESSES AND CONFLICT

2.9.1. Types of conflict

Conflict is recognised as an important group process variable, which often serves as a mediator of group behaviour and outcomes (Gladstein, 1984). Earlier research identified conflict types for specific kinds of conflict dimensions. For example, as cited by Pearson et al. (2002), Guetzkow and Gyr (1954: 380) defined conflict that relates to task disagreement as “intellectual opposition among participants, deriving from the content of the agenda”. In the case of the present study, this agenda would relate to matters concerning the family business. Guetzkow and Gyr (1954: 380) described relationship conflict as “tension generated by emotional clashes aroused during the interpersonal struggle involved in solving the group’s agenda problem” (Pearson et al., 2002: 110).

Jehn (1995; 1997) presented a multi-faceted qualitative investigation of conflict in organisational work teams and introduced the Intragroup Conflict Scale, which categorised conflict as relationship, task and process conflict, as noted in Table 2.9.

Table 2.9: Classifications of conflict

Relationship conflict	Animosity surrounding interpersonal relationships among co-workers, pertaining to personalities and dispositions.
Task conflict	Controversy over the job or project that the group is focusing on: the content and the goals of the work.
Process conflict	Conflict about how a task accomplishment should proceed in the work unit: how the work gets done.

Source: Jehn, 1997: 539-540.

Jehn’s (1997: 552) study examined conflict in “common-goal” groups, but still found conflicts of all types (relationship, task and process), despite members’ supposedly common purpose. Influenced

by Jehn's work, conflict research has largely focused on distinguishing between conflict types; most notably task versus relationship conflict (Korsgaard, Jeong, Mahony & Pitariu, 2008).

The present study initially considered Kellermanns et al.'s (2008) scales for work-related conflicts: *cognitive* and *process conflict*. *Cognitive conflict* (a synonym for the more commonly-used term, task conflict) centres on disagreements that are related to the work-at-hand and the strategies being pursued (Jehn, 1997), while *process conflict* refers to the discussions about who is responsible for which tasks (Jehn & Mannix, 2001). These scales were initially deemed particularly suited for the present study, because they were specifically developed for family businesses. However, in Kellermanns and Eddleston's (2007) study the high correlations between cognitive and process conflict raised multi-collinearity concerns. Furthermore, relationship conflict was not measured in this scale, even though it is widely suggested that business and family – and therefore relationships – cannot be completely separated in family businesses (Venter, 2007: 398).

Other reasons why process conflict was not considered for the present study are similar to those cited in Huang's (2010) study, that process conflict is merely one kind of task conflict (citing Barki & Hartwick, 2004). Huang (2010) added that most research distinguishes task conflict and relationship conflict, but does not include process conflict, as in the case of the present study. A conflict literature study by Vollmer (2015) confirmed that task and relationship conflict are the most commonly measured conflict types in scholarly literature. Pearson et al. (2002) attempted to refine Jehn's assessment of relationship and task conflict. The 6-item scale for intragroup conflict of Pearson et al. (2002) was deemed to be a better suited option for this study, since it comprises measures for task and relationship conflict and was properly validated (refer to Section 3.2.5).

For the purpose of this study, relationship conflict relates to conflict that involves "anger" (Question 5.1), "friction" (Question 5.2) and "tension" (Question 5.3) among family members during decisions. While relationship conflict is personal, task conflict involves disagreements about work at hand, in terms of different ideas (Question 5.4), opinions (Question 5.6) and differences about the content of decisions (Question 5.5).

2.9.2. Conflict, performance and innovation

Earlier studies generally agreed that task conflict could promote group efficiency and relationship conflict is likely to hinder group functioning in groups (Jehn, 1994; Schwenk, 1989) and top management teams (Amason, 1996). Cosier and Dalton (1990) suggested that task conflict leads to decision-makers seeing multiple perspectives, avoiding hazardous decisions and promoting innovative thinking. Similarly, Van de Vliert and De Dreu (1994), posited that increased conflict enhances group performance when the group focuses on task issues, when interpersonal tensions are low, and when members of the group have interdependent goals. Simons and Peterson (2000) suggested that groups who experience task conflict tend to make better decisions, because this encourages greater cognitive understanding of the issue being considered. The potential positive

impact of task conflict is supported by studies that provide evidence of a positive relationship between task conflict and innovation (De Clercq, Thongpapanl & Dimov, 2009; De Dreu, 2006; Li & Li, 2009; Lu, Zhou & Leung, 2011).

Relationship conflict, however, seemed to limit the information processing ability of the group, because group members spend their time and energy focusing on each other rather than on the group's task-related problems (Simons & Peterson, 2000). In addition, Kidwell, Kellermanns and Eddleston (2012) highlighted the importance of minimising relationship conflict, because such conflict can lead family members to limit positive contributions of effort and participation in the business. In terms of relationship conflict, De Dreu and Van Vianen (2001) proposed two reasons for the negative influence of relationship conflict on team performance. Firstly, relationship conflict reduces helping behaviour between team members and, secondly, it undermines the behaviour that task conflict is meant to foster in cognitive processes and insights.

Other studies, however, yielded mixed results in terms of the potential benefit of conflict (De Dreu & Weingart, 2003; O'Neill et al., 2013), with an increased emphasis on the influence of moderators (Goncalo et al., 2010; Huang, 2010; Simons & Peterson, 2000) of conflict, to explain mixed results. In a meta-analysis of task and relationship conflict and team performance and satisfaction, De Dreu and Weingart (2003), found that contrary to earlier suggestions, the relation between both task and relationship conflict and team performance was negative, dismissing the notion of productive conflict as suggested by, among others, Jehn (1995; 1997), Pearson et al. (2002) and Simons and Peterson (2000).

De Dreu and Weingart's (2003) analysis showed that the average correlation between task conflict and relationship conflict is substantial yet varied considerably across studies. However, in a larger and more recent meta-analysis, De Wit et al. (2012) suggested that team performance is negatively related to relationship conflict and process conflict and that the relation is essentially zero for task conflict. Another team conflict meta-analysis by O'Neill et al. (2013: 254) found that the weight of the evidence suggests that conflict is generally to be considered negative, "notwithstanding the novel finding here suggesting that task conflict may be a 'pro' in the case of decision-making teams". O'Neill et al. (2013) found that correlations involving conflict variables and innovation were zero. This calls into question existing theory that task conflict should stimulate team performance, with the authors suggesting that "perhaps the occurrence of task conflict is more helpful during planning and strategising phases of the work, when decision-making is likely predominant, rather than during task execution phases" (O'Neill et al., 2013: 251).

Acknowledging that conflict affects teams, research has shifted towards moderators of conflict and how conflict can be effectively managed to attain desired outcomes. With the lack of consensus between studies, the role of moderating factors has received more scholarly interest (Vollmer, 2015). In general terms, a moderator is a variable that affects the direction and/or strength of the relation between an independent and a dependent variable (Baron & Kenny, 1986: 1174). A *moderator*

variable is one that influences the strength of a relationship between two other variables, and a *mediator variable* is one that explains the relationship between two other variables (refer to Section 4.10.3).

Simons and Peterson (2000) suggested that within-team trust moderates the correlation between task and relationship conflict, with high correlations between task and relationship conflict in teams with low trust, and low correlations in teams with high trust. Similarly, Li and Li (2009) proposed that the deftness of teams, defined as team mutual confidence, trust and fluency of task execution, strengthens the impact of task conflict on innovative decision-making. De Wit et al. (2012) posited that task conflict is positively related to performance when used in top management teams or when the criterion is decision-making performance. Also responding to mixed results, Xie et al. (2014) drew on the resource-based view to argue that the impact of task conflict on team innovation is dependent on the knowledge integration capacity of the team – defined as a team’s ability to effectively combine, capitalise and utilise the resource pool. According to Xie et al. (2014), teams that are better able to integrate members’ knowledge and inputs are more likely to positively react to task conflict, because the friction can drive rigorous information processing and lead to innovation. This is supported by a study by Gast et al. (2018), which suggested that although the decision-making process can be slowed down by conflicts within the family, family businesses gain experience with such conflicts over time and their processes become more flexible, less hierarchical, and therefore faster. However, task conflict can spiral into detrimental relationship conflict when team members have weak interactions (Gamero, González-Romá, & Peiró, 2008).

O’Neill et al. (2013) cited Goncalo et al. (2010), suggesting that conflict occurring at different points in the team’s life cycle could have differential implications for team effectiveness. Huang (2010) found that team members (not necessarily family members) with different goal orientations respond differently to task conflict, meaning that task conflict leads to different outcomes. This study suggested that team goal orientation moderates the relationship between task conflict and relationship conflict and proposed that supervisors could frame the tasks and discussions of team members towards “learning rather than performance goals, enabling team members to openly share different opinions and benefit from task conflict” (Huang, 2010: 348).

Social interactions proved to moderate task conflict and innovation by pronouncing the beneficial aspects of task conflict. A study by De Clercq et al. (2009) suggested that high levels of interpersonal interactions could lead to more effective coping with disagreements about content-related issues. In their study, social interactions facilitated joint problem-solving and enabled the productive resolution of task conflict into innovative solutions. Conversely, at low levels of social interaction, task conflict did not appear to increase innovation. It could be argued that family businesses are likely to have a higher number of social interactions, which makes this finding particularly relevant to family business studies.

Similarly, social cohesion is posited to moderate the relationship between task and relationship conflict. A study by Ensley, Pearson and Amason (2002), evaluated the influence of cohesion, “the degree to which members of the group are attracted to each other” (Shaw, 1981: 213), in top management teams in terms of conflict. Ensley et al. (2002) found that cohesion may increase task conflict, while minimising relationship conflict. Ensley and colleagues (2002) argued that team members who experience a high sense of belonging should be better able to manage conflict than teams with a lower sense of cohesion. They suggested that cohesive teams should be more effective in embracing conflict than teams that are less cohesive because their tendency for task conflict to trigger relationship conflict should be substantially reduced. When family members feel free to express ideas, such as in open discussions (De Dreu & West, 2001) or in a climate of psychological safety (Bradley, Postlethwaite, Klotz, Hamdani, & Brown, 2012), task conflict is more likely to be beneficial.

De Dreu and Weingart (2003: 748) stated that “conflict may have positive consequences under very specific circumstances, and we need to detect those circumstances in new research”. The present study posits that the characteristics of team cohesion cited by Ensley et al. (2002), including shared values, higher flexibility, longer tenures, better shared tacit knowledge and “not needing to spend extra energy or resources on group maintenance”, are similar to characteristics associated with family essence, highlighted in Section 2.6. Furthermore, enabling team members to openly share different opinions (Huang, 2010: 348) is also associated with family businesses (Nicholson, 2008). Lastly, family businesses provide unique circumstances for knowledge integration (Sciascia et al., 2013; Woodfield & Husted, 2017), which was highlighted by Xie et al. (2014) as a moderator of the relationship between task conflict and innovation. It could therefore be argued that aspects of family essence (most notably family commitment) could promote unique circumstances where task conflict could positively influence family top management teams.

2.9.3. Family influence and conflict

Family business and the family itself are intertwined to the extent that the performance of both the business and the family dimension needs to be considered. This intersection of business and family could often represent a source of conflict within the business (Kellermanns & Eddleston, 2004). Carr and Hmieleski (2015) theorised that in family businesses, conflicts that lead to work tensions are expected to originate in the family domain, whereas in non-family businesses work is more often the source of conflict. Unlike in other organisational forms, the effects of conflict on performance cannot be completely understood without taking into account the influence of the psychodynamic effects of family relationships in family businesses (Kellermanns & Eddleston, 2004).

Relationship issues have been identified as an important aspect to consider, when evaluating the sustainability of family businesses (Sharma, 2004; Tucker, 2011). In fact, Olson et al. (2003) argued that good relationships can overcome bad business decisions, but the opposite is more difficult to achieve. According to Nicholson (2008), family businesses are in contrast with non-family

corporations regarding the degree to which family members express emotions freely. In the case of non-family businesses, there are prohibiting norms of emotional expression and the requirement to subordinate goals to organisational rationality. However, familial ties may allow family members to express both positive and negative feelings more freely in family businesses (Efendy et al., 2013), because personal goals and organisational goals are more strongly aligned via ownership. Nicholson (2008) commented on the fact that this freedom is a potential source of advantage in terms of commitment, but also a source of disadvantage where it engenders destructive varieties of conflict (Kellermanns & Eddleston, 2004).

Cassia et al. (2012: 2913) highlighted conflict as a major issue in family business research, suggesting that the “mixture of blood and professional relationships” between group members impacts the decision-making processes of product and process innovation. The study by Cassia and colleagues (2012) found less rational decision-making processes and more frequent conflicts in family businesses than in non-family businesses. They posited that conflict in family enterprises can generate communication problems and inefficiencies in the commercial assessment of the different stages of product innovations. Conversely, De Massis et al. (2015) suggested that the social capital and close relationships of family businesses allow them to mitigate the drawbacks that characterise the use of functional organisations (such as communication problems and conflicts between the functional heads) allowing them to manage the complexity of product innovation projects without incurring the high costs and resource duplication associated with cross-functional teams in non-family businesses. Although conflict impacts product and process innovation, managerial innovation involves people and therefore the relationships and resulting potential conflicts.

The importance of effective communication was highlighted by Maas et al. (2005: 119, cited by Van der Merwe & Ellis, 2007), who suggested that effective communication provides the basis for sound relationships as well as conflict resolution. Van der Merwe and Ellis (2007: 31) encouraged family forums as a means of promoting communication, stating that “family forums are an excellent communication improvement tool to prevent conflict from becoming a full-blooded argument”. An important benefit of social interaction among group members is shared learning, which may reduce conflict among group members (St John & Rue, 1991). Trevinyo-Rodriguez and Tapias (2010) suggested that, when attributes such as values and beliefs are shared between family members, it could yield distinct advantages in terms of improved communication, which should facilitate improved shared learning. Bammens et al. (2010) argued that family businesses may be characterised by a stronger innovation-supportive stewardship culture. They specifically noted a need for relatedness, which enhances autonomy, trust and collectivism, which could reduce relationship conflict.

Cosier and Harvey (1998: 75) suggested that, in order to utilise the potential advantages of conflict, team members should frequently be reminded that work-related conflict should not escalate and become relationship conflict. Some of the most challenging conflicts in family businesses are often the result of long-term processes and developments, rather than one-time events (Rhodes & Lansky,

2013). A South African study also found that family businesses should strive towards a situation where “serious conflict is prevented, and if it occurs, it should be dealt with quickly, before it has a negative impact on family harmony and ultimately, the longevity of the family business” (Van der Merwe et al., 2012: 26).

The extent and frequency of family business conflict may increase across generations. A study by Davis and Harveston (1999: 319) suggested that third and later-generation businesses are subject to more conflict than their first- or second-generation counterparts and that “there is a pattern of rising conflict with each succession in family generations”. A study by Venter et al. (2003: 9-10) argued that owner-managers often find it hard to discuss succession issues and added that a family in conflict may find the succession task very difficult. A South African study about non-financial goals of family businesses by Farrington, Venter and Van der Merwe (2011) suggested that role clarity positively influences family harmony. This supports the finding by Cowie (2007, cited by Farrington et al., 2011), that clear responsibilities promote a willingness to cooperate and support others, therefore supporting what De Dreu and Van Vianen (2001) referred to as helping behaviour between team members. The importance of role clarity was highlighted in a study by Tidd, McIntyre and Friedman (2004) which suggested that under high role ambiguity, task conflict is more likely to escalate to personal or relationship conflict.

Eddleston and Kellermanns (2007) utilised stewardship theory (refer to Section 2.4.1.2) to explain why some family businesses are able to better deal with conflict. Based on the work of Eddleston and Kellermanns (2007), managing conflict types is particularly important during the succession process or when more than one generation are involved. In line with stewardship theory, Eddleston and Kellermanns (2007) argued that low concentrations of control will be negatively related to relationship conflict and positively related to a participative strategy process, whereby decision-making is shared within the team. Kellermanns and Eddleston (2004: 210) proposed that the involvement of different generations in the family business impacts the importance of task and process conflict on performance and the concentration of control influences the occurrence of task, process, and relationship conflict. Relationship conflict is posited to be moderated by the structure of the business itself (including generational control), while altruism may influence relationship conflict and may help to mitigate negative performance effects (Kellermanns & Eddleston, 2004: 210).

Kellermanns and Eddleston (2004) highlighted that understanding how the different types of conflict affect a family business is important in order to help these businesses make a successful transition through multiple generations. Cosier and Harvey (1998: 75) suggested that “when family business members understand conflict types, utilize the constructive parts of conflict to improve decisions, and strive for collaboration to solve problems, their organisations may be more effective”. Their study even suggested that in a family business setting, raising awareness that disagreements are inherent in conflict can be positive and can promote collaboration. Those family businesses that are most

successful in integrating new generations in decision-making through optimal levels of task and process conflict are posited to be most likely to continue to be operated by the family (Kellermanns & Eddleston, 2004). The seemingly conflicting paradoxical perceptions of conflict and innovation could be argued to relate to the myriad of paradoxical tensions that impede family business innovation, with Ingram, Lewis, Barton, and Gartner (2016) suggesting that leaders who think paradoxically may overcome these challenges.

A study by Sciascia et al. (2013) suggested that, while moderate levels of generational involvement stimulate task-related constructive conflicts for innovation, relationship conflicts led by high levels of generational involvement are likely to undermine this potential advantage by damaging the relational context for innovation. Kellermanns and Eddleston (2004) suggested that family businesses that have the least amount of relationship conflict between family members, and most importantly, between generations, may be most successful in transitioning to the next generation. Non-family managers may help resolve conflicts that arise between family members during innovation decision-making processes (Yoo & Sung, 2015), while open and collaborative innovation could lead to distinct innovation opportunities for family businesses (Feranita et al., 2017).

The literature presented highlights that the intertwined nature of business and family in family businesses, could have significant implications in terms of conflict (Nicholson, 2008; Sciascia et al., 2013) and that succession particularly yields unique circumstances that could affect conflict (Kellermanns & Eddleston, 2004; 2007).

2.10. SUMMARY

Family businesses present unique attributes compared to non-family businesses (Bertrand & Schoar, 2006; Chua et al., 2012; Denison, Lief & Ward, 2004; Le Breton-Miller, Miller & Steier, 2004; Morris et al., 1997), with family involvement particularly influencing the functioning of these enterprises (Chua et al., 1999; Habbershon et al., 2003; Miller & Le Breton-Miller, 2006; Rutherford et al., 2008; Sirmon & Hitt, 2003). The importance of family influence in businesses is expressed by the influence that this in turn has on business performance (Chua et al., 1999; Miller & Le Breton-Miller, 2006; Sirmon & Hitt, 2003), as well as innovation (Classen et al., 2014; Kellermanns et al., 2012; Lichtenthaler & Muethel, 2013).

Yet, scholars are increasingly recognising that family businesses are indeed heterogeneous (Chrisman et al., 2012; Chua et al., 2012; Kim & Gao, 2013; Melin & Nordqvist, 2007), which led to an increase in the number of studies that investigate mediators and moderators (such as Ensley et al., 2002; Goncalo et al., 2010; Mazzola et al., 2013; Olson et al., 2003; Simons & Peterson, 2000; Villalonga & Amit, 2006; Xie et al., 2014), when studying family influence. A better understanding of what drives the innovativeness of family businesses could be useful to resolve the conflicting results of prior studies (De Massis et al., 2015; Filser et al., 2018).

Family influence comprises multiple dimensions which should be considered independently (Astrachan et al., 2002). For the purpose of this study, typical family business behaviours (also called family essence) namely, the intention to transfer the business to the next generation, family commitment, non-economic goals and relationship conflict, were deemed particularly relevant pertaining to the evaluation of the potential moderating role of family influence in terms of innovation and conflict. These behaviours are posited to be motivated by the preservation of socio-emotional wealth of the family (Gómez-Mejia et al., 2007).

Family commitment relates to a commitment to future continuation of the business (Mahto et al., 2014) and can influence a business's culture (Heck, 2004), organisational values (Arregle et al., 2007; Eddleston & Kellermanns 2007), financing attitudes (Koropp et al., 2013) and matters that more closely relate to innovation, such as strategic flexibility (Zahra et al., 2008).

Bammens et al. (2010) argued that family businesses may be characterised by a stronger innovation-supportive stewardship culture. High levels of shared commitment to the business can increase the sense of mutual interdependence, reciprocal altruism and promote pro-organisational helping behaviours supportive of long-term organisational goals (Eddleston et al., 2008). This long-term view results in less pressure for short-term paybacks and more attention to ensure the longevity of the business (Bertrand & Schoar, 2006), which could specifically benefit product innovation (Cassia et al., 2012).

Rooted in the preservation of socio-emotional wealth (Gómez-Mejia et al., 2007), the adoption of non-economic family goals are a result of the intention to manage the business to realise a vision that extends beyond the lifespan of the current generation (Chrisman et al., 2012). Non-economic family goals can influence business behaviour (Zellweger et al., 2012), innovation (Monti & Salvemini, 2014) and ultimately, the desire to keep the business within the family (Wiklund et al., 2013).

The present study posits that the unique attributes of family influence could yield an environment where particularly task conflict could be beneficial to innovation. Research about the impact of task and relationship conflict has yielded inconclusive results (De Dreu & Weingart, 2003), but some attributes of family influence, such as shared values and commitment (Corbetta & Salvato; 2004), could lead to a relatedness, which enhances autonomy, trust and collectivism, resulting in a stronger innovation-supportive stewardship culture (Bammens et al., 2010), which could prevent potentially beneficial task conflict from becoming harmful relationship conflict (Ensley et al., 2002).

This chapter provided an overview of literature pertaining to family influence, with a specific focus on the potential influence that this could have in terms of the relationship between conflict and innovation. The next chapter utilises this theoretical foundation to establish a model, through which the interaction and potential moderating effects of these aspects are evaluated and explained.

CHAPTER 3

RESEARCH FRAMEWORK AND HYPOTHESES DEVELOPMENT

3.1. INTRODUCTION

The purpose of this chapter is to present a research framework that was developed for empirically investigating the role of family influence in conflict and innovation in South African wine industry family businesses. First, the different constructs and measurement items are outlined. This is followed by the development of a research framework to provide structure to evaluate the relationships between the different constructs. This framework was used to structure the hypotheses and the presentation of the subsequent research results.

3.2. CONSTRUCTS OF THE STUDY

The preceding literature review outlined the three pertinent aspects evaluated in this study:

- Family influence (including family power, family experience, generational overlap and family essence);
- Innovation (comprising managerial, process and product innovation); and
- Conflict (task conflict and relationship conflict).

This section discusses the origin, development and original validity and reliability testing of the constructs, which formed the research framework for the hypotheses' development. The reliability and validity testing for the results of the present study follows in Chapter 4.

3.2.1. Family influence

Family influence comprises multiple dimensions which should be considered independently (Astrachan et al., 2002). For the purpose of the present study, these dimensions comprised elements of the components-of-involvement and essence approaches, in line with the F-PEC scale (Astrachan et al., 2002; Klein et al., 2005). The following section outlines the different components of family influence that were measured.

3.2.1.1. Family power

Components-of-involvement (COI) relate to the family's influence on the business through ownership and management (Zellweger et al., 2010). For the purpose of this study, the holding family had to own at least 51 percent of the business (Question 1.1: refer to Section 4.4). In terms of management control, the number of family members involved in the management of the business (Question 2.4) was used to measure Family Power.

The single-indicator measures (items that were measured with single questions, instead of multi-item constructs) pertaining to family management involvement and ownership were adopted from the Chrisman et al. (2012) and Kellermanns et al. (2012) family influence scale. As in the case of the

Chrisman et al. (2012) study, an additional question was added to determine how many family members were involved in the management of the business. Refer to Table 3.1 below.

Table 3.1: Single-item indicator of family power

Question 2.4	How many family members are involved in the management of the business?
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3.2.1.2. Family experience

Family experience was taken from the F-PEC scale as a component of family influence. Family experience was measured in terms of business age measured in years (Question 2.2) and the managing generation (Question 2.5), which can be equated to the number of successions that had taken place. The measures used to assess family experience are presented in Table 3.2. below.

Table 3.2: Single-item indicators of family experience

Question 2.2	How long has the business been in existence in number of years?
Question 2.5	Which generation is currently most actively involved in managing the business?

3.2.2. Generational overlap

The generational overlap was measured in terms of the number of generations that control the management of the business (Question 2.6), as well as the number of generations that own the business. The single-measures construct for generational management and ownership dispersion were adopted from Kellermanns et al. (2012:92). These authors argued that these measures help to “capture the degree to which multiple generations are involved in the ownership and control of the family business”.

A single-item measure was used to measure the alignment between generations. Different goals between generations (Lam, 2011; Pokahr et al., 2005) could yield challenges for succession (Sharma, 2004), but an intra-family leadership succession phase has distinct characteristics that render it a peculiar time frame that could spur innovation (Hauck & Prügl, 2015: 104). Daspit et al. (2016) suggested that a family’s vision and intention for transgenerational sustainability are among the most important characteristics distinguishing family and non-family businesses.

Refer to Section 2.5.2.2 for a discussion about goal alignment and succession. The measure used to assess generational overlap is presented in Table 3.3. below.

Table 3.3: The single-item indicators utilised to measure components of generational overlap

Question 2.6	Management control of the business is concentrated in the hands of how many generations?
Question 2.7	In the family business ownership is concentrated within how many generations?
Question 3.1	The goals of the different generations involved in the business are similar.

3.2.3. Family essence

Family essence involves family business behaviours (Chrisman et al., 2005), rooted preservation of socio-emotional wealth of the family (Gómez-Mejía et al., 2007). The aspects that were measured included the intention to transfer the business to the next generation (Question 2.1), family commitment (Questions 2.8 to 2.14), non-economic family goals (Questions 3.5 to 3.7) and additional non-economic social goals (Questions 3.8 to 3.9). Family essence is an important aspect of the present study, since it involves the behaviour that results from family involvement (Rutherford et al., 2008) and could therefore determine how involvement influences both innovation and conflict.

3.2.3.1. Intention to transfer to the next generation

A transgenerational vision is at the core of socio-emotional wealth (Habbershon & Williams, 1999) and among the most important characteristics distinguishing family and non-family businesses (Daspit et al, 2016). The single-item measure used to determine the intention was adopted from a requirement to the classification of family businesses by Heck and Trent (1999).

Table 3.4: The single-item indicator of intention to transfer to the next generation

Question 2.1	The family has the intention to transfer the business to a next generation.
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3.2.3.2. Family commitment

Refer to Section 2.6.2 for an overview of literature pertaining to family commitment. The family commitment scale of Chrisman et al. (2012: 278) was adopted for this study. Chrisman et al. (2012) utilised the commitment scale to study family businesses across different sectors and data was collected from clients of the Small Business Development Centre (SBDC) programme via a mailed survey instrument. Their sample needed to consist of businesses that were of sufficient size to have the potential to experience and demonstrate significant managerial decision-making, as well as family involvement and influence. The analysis was subsequently limited to businesses with at least five full-time-equivalent employees.

Table 3.5: The multi-item scale utilised to measure family commitment

Question 2.8	Family members feel loyal to the business
Question 2.9	The family and business have similar values
Question 2.10	Family members publicly support the business
Question 2.11	Family members are proud to be a part of the business
Question 2.12	Family members agree with the goals, plans and policies of the business
Question 2.13	Family members really care about the fate of the business
Question 2.14	Family members are willing to put in extra effort to help the business be successful

Source: Chrisman et al., 2012.

The adopted scale was designed for reasonably similar respondents. Chrisman et al. (2012) collected data from clients of the Small Business Development Centre (SBDC) programme in the United States of America (USA). Although these businesses were not sector bound (as in the case of the present study) the scale was used to measure family commitment, not sector-specific measures.

3.2.3.3. Non-economic family goals

The family-centred non-economic (FCNE) goal scale developed by Chrisman et al. (2012: 273) was consistent with non-economic goals tallied by Astrachan and Jaskiewicz (2008), Westhead and Howorth (2007) and Zellweger and Astrachan (2008). Refer to Section 2.6.3 for a more detailed review of non-economic family goals.

Table 3.6: The multi-item scale utilised to measure non-economic family goals

Question 3.5	Family harmony is an important goal when making business decisions
Question 3.6	The social status of the family is an important factor when making family business decisions
Question 3.7	My business is closely linked to the identity of my family

Source: Chrisman et al., 2012.

The dependent variable, non-economic family goals, consisted of three items measured on a 5-point Likert scale, which is in line with the other scales used in this study. For the study by Chrisman et al. (2012), confirmatory factor analysis was used to examine underlying psychometric properties of the constructs. Each item of the Chrisman et al. (2012) study produced squared multiple correlations above 0.40 and significant loadings onto the construct. These results, along with the Cronbach's alpha (>0.7), suggested that the construct validity of this scale was sufficient for the present study's statistical tests.

In addition to the three non-economic goals utilised in the Chrisman et al. (2012) scale, two additional questions (refer to Table 3.7) relating to community contribution and job creation for the next generation were added. Refer to Section 2.6.3. for a more detailed overview of these additional non-economic goals.

Job creation for family members is commonly highlighted in literature (including Andersson et al., 2002; Chrisman et al., 2004; Chua, Chrisman & Steier, 2003). By referring to job creation for the next generation in a family business context, the question relates to jobs for the next generation family members. Community contribution as a non-economic goal was adopted from a family business study by Niehm et al. (2008).

Table 3.7: Additional non-economic goals

Question 3.8	It is important that the business makes a meaningful contribution to the community
Question 3.9	The business needs to provide job opportunities for the next generation

3.2.3.4. Summary: Family influence

The different dimensions of family influence that were investigated in this study were outlined, with references to the sources as well as the relevant measurement items. The reliability and validity testing as well as the sample audience of the adopted scales and measurement items were outlined. The dimensions of family influence are summarised in Table 3.8. Relationship conflict is also considered as a dimension of family influence. This scale is discussed in Section 3.2.5.

Table 3.8: A summary of the constructs and single-item indicators used to measure the different dimensions of family influence

Power	Family management involvement	Question 2.4
Experience	Age of business	Question 2.2.
	Managing generation	Question 2.5.
Goal alignment	Same goals accross generations	Question 3.1
	Generational management dispersion	Question 2.6.
	Generational ownership dispersion	Question 2.7.
Family essence	Intention to transfer	Question 2.1.
	Family commitment	Questions 2.8 to 2.14
	Non-economic family goals	Questions 3.5 to 3.9
	Relationship conflict	Question 5.1 to 5.3

3.2.4. Innovation scales

Refer to Section 2.8 for an overview of innovation in family businesses. The present study adopted a scale utilised by Che-Ha et al. (2014) in a study of 1 500 Malaysian business (family and non-family). Che-Ha et al. (2014) based the innovation scale on the work of Pennings (1991), as well as Baker and Sinkula (1999), Damanpour and Gopalakrishnan (2001), Fritz (1996), Manu and Sriram (1996), Wong and Saunders (1993).

In order to minimise measurement error and to improve questionnaire content and readability, the questionnaire was pre-tested by Che-Ha et al. (2014) using several academics and managing directors. The Che-Ha et al. (2014) study used composite reliabilities as indicators of the internal consistency. All measures of internal consistency were above 0.8, demonstrating high reliability of the measures (Hulland, 1999). Furthermore, the square root of the average variance extracted (AVE) compared to correlations of the latent variables were all higher, establishing adequate discriminant validity.

Although this scale was not developed specifically for the wine industry, the different types of innovation (managerial innovation, process innovation and product innovation) also apply in the context of the South African wine industry. Refer to Section 2.8.3 for an overview of the different types of organisational innovation.

The different types of innovation were evaluated separately for the individual hypotheses testing (refer to Section 6.2) and as an individual construct for the PLS-SEM (refer to Section 6.3). In cases where any of the individual innovation types presented a statistically relevant relationship with the relevant independent variable, the null hypothesis was not accepted and the alternative hypothesis was presented accordingly. The managerial innovation, process innovation and product innovation scales are presented in Table 3.9.

Table 3.9: The multi-item scale utilised to measure innovation

	Managerial innovation
Question 4.1	Management constantly seeks to develop new ideas
Question 4.2	Our business invests in applied research and development
Question 4.3	Innovative ideas are rewarded in our business
Question 4.4	People are encouraged to perceive innovation as an opportunity
Question 4.5	Management rewards individuals for innovative ideas
	Process innovation
Question 4.6	We constantly use technology to enhance our efficiency
Question 4.7	We regularly invest to update our plant and equipment
Question 4.8	We constantly benchmark to world class standards
Question 4.9	Work practices are continuously reviewed to enhance efficiency
Question 4.10	We train our people in emerging industry technology
	Product innovation
Question 4.11	Our new products/services have caused significant changes in the industry
Question 4.12	We are prepared to introduce a totally new product/service even though it is risky
Question 4.13	We constantly modify our products/services to better serve our customers
Question 4.14	We prefer to be the first in the market with new products/services

Source: Che-Ha et al., 2014.

3.2.5. Conflict scales

Refer to Section 2.9.1 for a detailed discussion about conflict types. The present study adopted a conflict scale for relationship conflict and task conflict by Pearson et al. (2002). These authors applied the best practices in scale development, as outlined by Hinkin (1995), to assess the construct and predictive validity of this scale. Using confirmatory factor analysis to examine the construct validity of Jehn's (1995) intragroup conflict scale, Pearson et al. (2002) suggested an alternative 6-item model. This model was tested in six samples to offer additional validity and support. Furthermore, they tested the 6-item model in a series of theoretically-derived hypotheses to ascertain the predictive validity of the model, again using multiple samples. The model successfully predicted the hypothesised outcomes.

Significantly for the present study, five of the six samples that were used to validate Pearson et al's (2002) 6-item scale, were top management teams, as in the case of the present study. Furthermore, one of the samples comprised management teams of 192 "mid-sized" food processing businesses, which have many similarities to the sample of the present study, as discussed in Section 4.5.1.

Since Pearson et al.'s (2002) scale was not particularly designed for family businesses, the wording of some questions was adapted for family businesses with "group" being replaced by "family". Refer to Table 3.10. Pearson (2015) approved this suggestion per email correspondence and commented that this scale is indeed also suitable for family business studies.

Table 3.10: The multi-item scale utilised to measure conflict

	Relationship conflict
Question 5.1	There is a lot of anger among family members
Question 5.2	There is personal friction among family members during decisions
Question 5.3	There is a lot of tension in the family during decisions
	Task conflict
Question 5.4	There are many disagreements about different ideas
Question 5.5	The family has to work through many differences about the content of decisions
Question 5.6	There are many differences of opinion among the family members

Source: Pearson et al., 2002.

3.2.6. Goal orientation scales

The goal orientation scales were initially included as a potential moderator of the relationship between conflict and innovation, based on the study of Huang (2010). However, because goal orientation is not a dimension of family influence, the constructs were not utilised in further analyses for the purpose of this study.

3.3. THE RESEARCH FRAMEWORK

This section introduces a framework that was utilised to structure the research. A framework was required to evaluate the relationships and moderating roles between the different constructs and single-item indicators, on which the hypotheses development could be based and structured. In order to examine the role that family influence has on innovation and conflict, the relationships between dimensions of family influence, conflict and innovation were investigated, as well as the moderating influence of the family essence dimensions (family commitment and non-economic family goals) between conflict and innovation. An appropriate research framework had to provide for the above-mentioned factors in a satisfactory manner. These respective relationships are presented in such a framework in Figure 3.1.

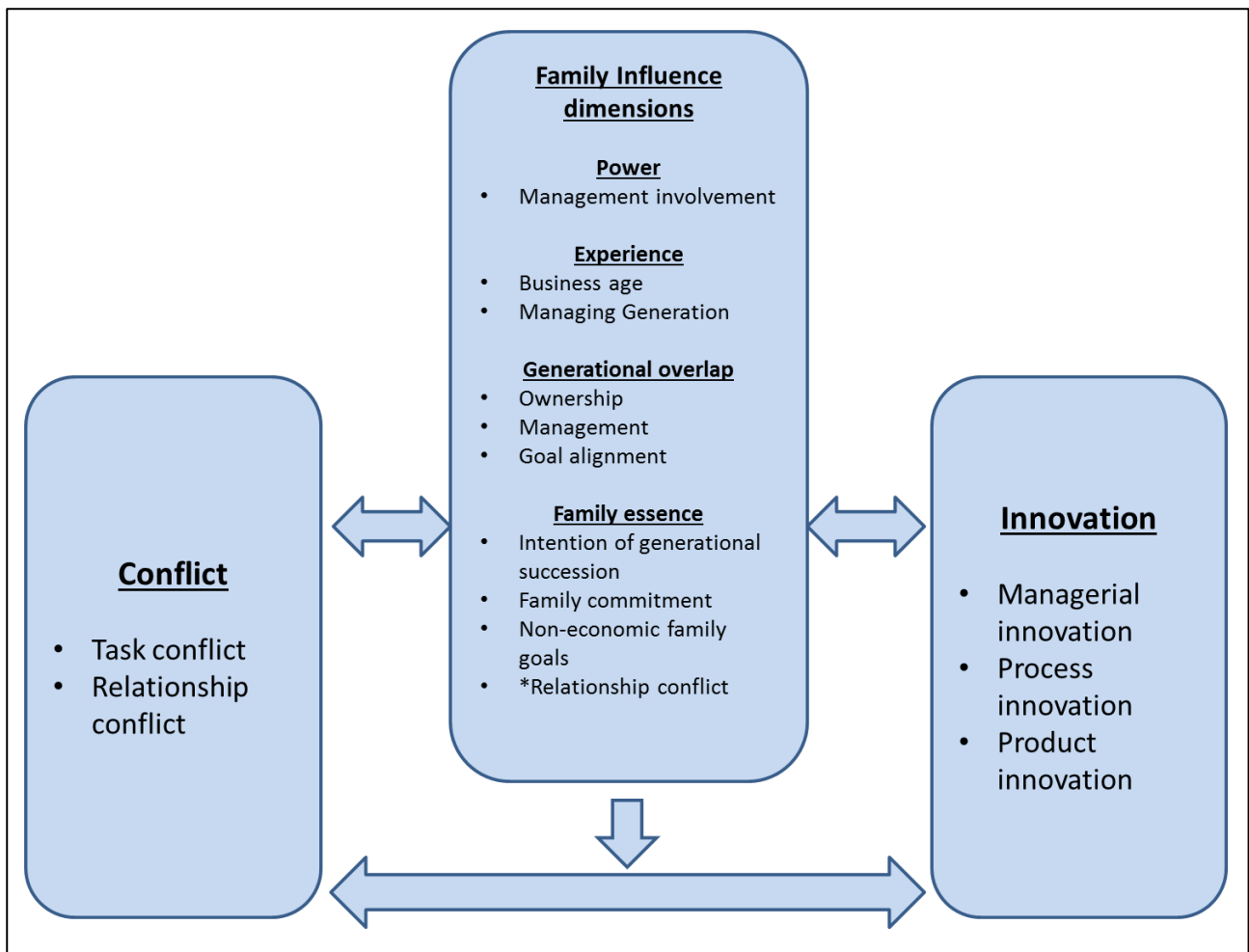


Figure 3.1: A framework to evaluate the relationships between dimensions of family influence, conflict and innovation

The framework presented in Figure 3.1. includes the respective constructs of conflict and innovation, as well as the measured dimensions of family influence. The arrows between the components of innovation and family dimensions and conflict and innovation represent the relationships between these respective constructs that were studied, while the longer arrow at the bottom represents the potential moderating effect of the different dimensions of family influence. In the case of relationship conflict as a dimension of family influence, the moderating role of relationship conflict was only applicable to the relationship between task conflict and innovation. The development of a framework which was used to further investigate these potential moderating effects is presented at the end of this chapter (Section 3.7). Supported and substantiated by theory, the aforementioned frameworks were used to structure the development of hypotheses.

3.4. DEVELOPMENT OF RESEARCH HYPOTHESES

This section discusses the main research hypotheses and develops supporting sub-hypotheses, based on the research framework. A research hypothesis, according to Sangor (2004: 36), can be defined as “a specific and falsifiable prediction regarding the relationship between or among two or more variables”. According to Sangor (2004: 156), correlational research uses both the independent variable and the dependent variable to search and describe relationships between these variables.

Saunders et al. (2009: 588) described a causal relationship as a “relationship between two or more variables in which the change (effect) in one is caused by the other variable(s)”. Vermeulen (1998: 33), however, stated that, while with directional hypotheses the direction (effect of one variable on the other) can be predicted, non-directional hypotheses state a relationship between variables, but do not define the kind of difference or predict the kind of effect.

Citing Lehane and Clark (1995), Goosen (2002: 100) proposed several criteria whereby hypotheses should be formulated. These state that hypotheses should:

- Be clearly and unambiguously stated;
- Not be vague;
- Have operational definitions and definitions of technical terms;
- Be limited in scope so that they are testable; and
- Be based on literature and be consistent with known facts about the research.

These criteria were adopted in setting hypotheses for the present study. For this study, deductive research was conducted by proposing and testing hypotheses proposed from literature. (refer to Chapter 4 for an overview of the research methodology.)

3.5. RESEARCH HYPOTHESES

Conceptual (or *priori*) models and their sub-components have been presented that focus on three elements: innovation, family influence and conflict. The setting of the main hypothesis in this study is implicitly stated through a *priori* model, as depicted in Figure 3.1.

A significant number of studies have been done to evaluate the differences between family businesses and their non-family counterparts, including differences in terms of conflict (Kellermanns & Eddleston, 2004; 2007; Sciascia et al., 2013) and innovation (Classen et al., 2014; Kellermanns et al., 2012; Lichtenthaler & Muethel, 2013). The current body of knowledge, however, lacks a clear understanding of the impact of the different dimensions of family influence on the relationship between conflict and innovation.

Research about the impact of task and relationship conflict on innovation has yielded inconclusive results (De Dreu & Weingart, 2003; O'Neill et al., 2013). Some attributes that have been identified as moderators of the relationship between conflict and innovation, are also associated with family influence. For example, Li and Li (2009) suggested in a study of deftness of teams that trust

strengthens the impact of task conflict on innovative decision-making. Corbetta and Salvato (2004) also posited that shared values and commitment could lead to a relatedness, which enhances autonomy, trust and collectivism, resulting in a stronger innovation-supportive stewardship culture (Bammens et al., 2010) in family businesses.

Similarly, Ensley and colleagues (2002) argued that team members who experience a high sense of belonging should be better able to manage conflict than teams with a lower sense of cohesion. The characteristics of team cohesion cited by Ensley et al. (2002), including shared values, higher flexibility, longer tenures, better shared tacit knowledge and “not needing to spend extra energy or resources on group maintenance” are similar to characteristics of family essence (De Massis et al., 2015; Miller & Breton-Miller, 2006; Jaskiewicz et al., 2017; Zahra et al., 2008). High levels of interpersonal interactions have also been posited to result in more effective coping with disagreements about content-related issues (De Clercq et al., 2009). Since family businesses are known for the intertwined nature of business and family, the close interpersonal interactions could have significant implications in terms of conflict (De Clercq et al., 2009; Nicholson, 2008; Sciascia et al., 2013).

Lastly, Xie et al. (2014) argued that the impact of task conflict on team innovation is dependent on the knowledge integration capacity of the team. Families are able to transfer and employ tacit knowledge from generation-to-generation to influence their business (Jaskiewicz et al., 2017) and have distinct advantages in terms of innovation through intergenerational knowledge sharing (Woodfield & Husted, 2017).

As noted in the aforementioned examples of conflict and innovation, research on the relationship between conflict and innovation has shifted towards moderators of conflict and how conflict can be effectively managed to attain desired outcomes. The present study aims to contribute to scholarly knowledge about moderators of the relationship between conflict and innovation and subsequently posits that family influence moderates the relationship between conflict and innovation:

Main Null Hypothesis: Family influence does not impact the relationship between conflict and innovation in family businesses.

Alternative Hypothesis: Family influence moderates the relationship between conflict and innovation in family businesses.

Because different dimensions of family influence are evaluated independently, sub-hypotheses of each dimension provide insights into the impact of different family influence dimensions. The sub-hypotheses therefore answer to the main hypothesis of whether family influence impacts the relationship between conflict and innovation. For each hypothesis concerning innovation, each of the different innovation types (managerial¹, process² and product³) were evaluated. Similarly, for each hypothesis concerning conflict, each of the conflict types (relationship¹ and task²) were evaluated. For practical, spacing reasons, the full list of hypotheses is presented in Appendix H.

3.5.1. Family power: Management involvement

For the purpose of this study, a minimum of two family members had to be part of the management of the business. The item used to measure family member involvement (Question 2.4) therefore had a minimum of two family members, which means that all the businesses already exhibited some family involvement in terms of management.

Agency theorists argue that family businesses that are both owned and managed by family members have more efficient governance structures (Dyer, 2010; Schulze et al., 2002; 2003), suggesting that family owner-management promotes communication and cooperation within the business. It could therefore be argued that, if the managers are from the owning family, this could positively change the dynamics through an environment of cooperation, commitment and communication. Kellermanns and Eddleston (2004) further proposed that the participation of more family members leads to greater diversity of perspectives, which could lead to innovative behaviour, because family members are better equipped to identify and understand the challenges and opportunities that face the company (Zahra, 2005). Kellermanns et al. (2012) suggested that family businesses that encourage family members to partake in the management of the firm should benefit from the development of psychological ownership and shared destiny among family members, thereby enhancing family members' sense of responsibility and commitment to the firm (refer to Section 3.5.6). Based on the potential benefits to innovative behaviour brought about by family managerial involvement, the following sub-hypothesis was developed:

Null Hypothesis 1a: There is no relationship between the number of family members in the business's management team and innovation.

Alternative Hypothesis 1a: Family businesses with more family members in the business's management team are associated with more innovation.

These afore-mentioned hypotheses concern the influence of family member involvement in management in terms of the three different types of innovation (product, process and managerial innovation). See Appendix H.

The potential benefits of family member involvement in management could, however, be negated by concerns pertaining to nepotism and conflict (Dyer, 2010). Davis and Harveston (1999) posited that the participation of more family members in decision-making within family businesses is likely to increase conflict. This is supported by Stewart (2017), who suggested that "too many family member bosses" is a source of conflict. The following hypotheses were subsequently developed to evaluate the effect of more family members on the business's management team in terms of conflict.

Null Hypothesis 1b: There is no relationship between the number of family members in the business's management team and conflict.

Alternative Hypothesis 1b: Family businesses with more family members in the business's management team are associated with higher levels of conflict.

Because this conflict pertains to task decision-making in the business, it can be posited that the resulting conflict will mainly be task conflict. However, both task conflict and relationship conflict were evaluated. See Appendix H.

3.5.2. Family experience: Business age and managing generation

The hypotheses that relate to family experience were investigated in terms of both family experience measures (business age in number of years and business age in terms of controlling generation) and the different types of innovation (product, process and managerial).

Morris et al. (1997) cautioned against applying life stage frameworks to family businesses, arguing that conventional business life stage frameworks usually assume a separation of ownership and management and therefore accept that the organisation outgrows the managerial capabilities of the founding entrepreneur, ignoring issues of succession. Morris et al. (1997), added that life stage frameworks focus on business sub-systems, without considering the unique complexities of family businesses. Another reason why it could be difficult to accurately identify life stages is that families change in the natural cycle of life, with the occurrence of marriages, births, perhaps divorces, and eventually, deaths (Rhodes & Lansky, 2013).

Le Breton-Miller and Miller (2013) suggested that socio-emotional wealth priorities change over the life cycle of family businesses and are affected by life-stage specific considerations, including conflict, the number of family members involved, business demographics and ownership. Also highlighting that socio-emotional wealth aspects could change over time, Zellweger and Astrachan (2008) suggested that non-economic family goals are likely to become more relevant as the business gets older, because the family becomes more attached to the business.

A study by Craig and Moores (2006) suggested that innovation is related to life stage, with earlier life stage businesses having greater levels of innovation. This is supported by a study by Bammens et al. (2010) which argued that, particularly in early-generation businesses, the relatedness resulting from family involvement fosters an organisational culture that leads to innovation advantages. Classen et al.'s (2014) study also found that younger family businesses were generally the most innovative.

Ehrhardt et al. (2007) highlighted that generational effects may have an influence on business performance. These authors found strong performance in the founder generation and even stronger performance in the second generation. The third and fourth generations did not maintain the same levels of performance.

The following hypotheses relating to family business experience and innovation were subsequently developed:

Null Hypothesis 2a: There is no relationship between business age and innovation.

Alternative Hypothesis 2a^a: Younger family businesses are associated with higher levels of innovation.

Null Hypothesis 2b: There is no relationship between managing generation and innovation.

Alternative Hypothesis 2b^a: Earlier generation family businesses are associated with higher levels of innovation.

Some studies have, however, posited that there are instances where older businesses are indeed more innovative. Dibrell et al. (2011: 471) suggested the businesses in the mature stage of their organisational life cycle may have advantages over those in earlier stages, based on the use of capital in the provision of superior products and services. In terms of the wine industry, this specifically relates to specialised processing technology, as well as specialised skills, which require significant capital investment. This is supported by Koberg et al. (1996), who cited Kazanjian (1988), Quinn and Cameron (1983) and Van de Ven (1980), suggesting that early-stage businesses lack financial and human resources required for innovation.

This is supported by authors who suggested that later generation family members instead may be more entrepreneurially oriented and embrace radical innovation, even if they go against earlier past decisions (Litz & Kleysen, 2001; Corbetta & Salvato, 2004). Furthermore, Laforet (2013) suggested that older family businesses involve non-family employees in the generation and evaluation of new products and ideas, while young family businesses involve family employees in new product launches. Non-family involvement in decision-making is therefore limited when the business starts, but increases as the business becomes more established. Similarly, family businesses' managers are known to internalise collective knowledge (Chirico & Salvato, 2016; Salvato & Melin, 2008).

Laforet (2013) found that young businesses are not keen to take up training courses, attend workshops/seminars, while old businesses are found to engage others outside the business. It could therefore be argued that older family businesses in the wine industry are more likely to engage with new processing techniques, specifically because they have access to invest in high-tech equipment and because they are more likely to engage with external sources for information, such as advanced techniques or processes. It can therefore also be argued that older businesses are more innovative – particularly in technology-related process innovation. The following alternative hypotheses were therefore also proposed.

Alternative hypothesis 2a^b: Older businesses are associated with higher levels of innovation.

Alternative hypothesis 2b^b: Later-generation businesses are associated with higher levels of innovation.

Based on the fact that there are two alternative hypotheses for Hypothesis 2a, a two-tailed ANOVA applies, instead of a one-tailed ANOVA, as in the case of the rest of the analyses. Refer to Section 4.10.1 for an overview of ANOVA.

The following hypotheses were also investigated in terms of both family experience measures (business age in number of years and managing generation) and the different types of conflict measured in this study (task conflict and relationship conflict). See Appendix H.

Goncalo et al. (2010) suggested that conflict occurring at different points in the team's life cycle could have different implications for team effectiveness. The present study adopts the view of Rhodes and Lansky (2013) that unique family business occurrences, such as births, divorces and deaths are likely to affect the businesses, making life stage evaluation complex – particularly in terms of conflict. Davis and Harveston (1999: 319), however, suggested that third- and later-generation businesses are subject to more conflict than their first- or second-generation counterparts and that “there is a pattern of rising conflict with each succession in family generations”. The following hypothesis was therefore developed to investigate the impact of business experience in terms of conflict.

Null Hypothesis 2c: There is no relationship between business age and conflict.

Alternative Hypothesis 2c: Older family businesses are associated with more conflict.

Null Hypothesis 2d: There is no relationship between the managing generation and conflict.

Alternative Hypothesis 2d: Later generation family businesses are associated with more conflict.

3.5.3. Generational overlap: Managerial control and ownership

The overlap in terms of managerial control (Question 2.6) and ownership dispersion (Question 2.7) between generations is investigated in this study as part of the family influence dimension relating to generational overlap. According to Kosmidou and Ahuja (2019) the relationship between generational involvement and innovation in family businesses is not well understood. The present study investigated the influence of one managing or owning generation, compared to management or ownership comprising multiple generations, in terms of innovation and conflict.

The participation of more family members is often the start of the succession process and is posited to lead to greater diversity of perspectives (Kellermanns & Eddleston, 2004), as well as the transfer of tacit knowledge (Jaskiewicz et al., 2017). Kotlar and De Massis (2013) highlighted that the intensity of the bargaining process used to achieve goal consensus increases at critical junctures, such as during intra-family leadership transitions. These junctures present circumstances that could yield unique circumstances for innovation (Hauck & Prügl, 2015: 104) or to reformulate a business's direction and renew its energies (Lansberg, 1999). These circumstances include generational involvement, which in moderation, according to Kellermanns et al. (2012), could stimulate task-related constructive conflicts, which could benefit innovation.

Null Hypothesis 3a: There is no relationship between the number of generations involved in the management of the family business and innovation.

Alternative Hypothesis 3a: Family businesses where more than one generation are involved in the management of the business, are associated with higher levels of innovation.

Refer to Appendix H for the hypotheses that specifically relate to the different types of innovation.

The different generations involved in the succession process are likely to be at different life stages (Venter et al., 2005) and may have different goals (Lam, 2011). This misalignment is seen as a potential challenge in family business (Sharma, 2004) and is likely to lead to conflicting opinions in terms of future goals. Conflict situations often emerge when different generations contribute to the strategic direction of family businesses (Frank et al., 2011; Welsh et al., 2013). The involvement of different generations in terms of management is posited to be associated with higher levels of conflict. (Kellermanns & Eddleston, 2004):

Null Hypothesis 3b: There is no relationship between the number of generations involved in the management of the family business and conflict.

Alternative Hypothesis 3b: Family businesses where more than one generation are involved in the management of the business, are associated with more conflict.

As a dimension of the family power, ownership was investigated separately in terms of ownership dispersion (Question 2.7) as a dimension of generational overlap. Agency theory suggests that businesses that are both owned and managed by family members have a more efficient governance structure (Dyer, 2010; Schulze et al., 2002; 2003), based on the alignment of goals, since all owning members earn their living from the same source: their business (Dyer, 2010; Efendy et al., 2013; Trevinyo-Rodriguez & Tapies 2010). Concentrated, family ownership is likely to positively influence performance, because conflicts of interest between minority shareholders and controlling families are reduced, and potential agency problems are minimised (Anderson & Reeb, 2003; Poutziouris et al. 2015).

Based on the suggestion that ownership influences the behaviour of the owning and managing family, the dispersion of ownership should also affect the dynamics of generations involved in succession. Shared ownership is posited to influence inter-generational learning (Trevinyo-Rodriguez & Tapies, 2010), since owners are inclined to teach the next generation members everything they know about the business, with the objective that their children continue it and build on it.

Hoy (2006) suggested that the ownership structure of the business could reflect the developmental stage of the business. High dispersion of ownership indicates ownership control by multiple family branches, when the business is likely to be in a later stage of development.

Noting that the present study is investigating whether family influence could result in a constructive conflict, this study proposed that ownership dispersion between generations should positively influence innovation, based on goal alignment (Dyer, 2010; Efendy et al., 2013) and inter-generational learning (Trevinyo-Rodriguez & Tapies, 2010):

Null Hypothesis 4a: There is no relationship between ownership dispersion between generations and innovation.

Alternative Hypothesis 4a: Family businesses where ownership is dispersed between more than one generation, are associated with higher levels of innovation.

Null Hypothesis 4b: There is no relationship between ownership dispersion between generations and conflict.

Alternative Hypothesis 4b: Family businesses where ownership is dispersed between more than one generation, are associated with higher levels of relationship conflict.

3.5.4. Goal alignment

The alignment of multiple goals among stakeholders was highlighted by Sharma (2004) as a potential challenge in family business. Cheng et al. (2007) considered the negative effects which may occur when goals are incompatible – when goals are conflicting. These authors found strong support for a negative relationship between goal conflict, as perceived by the employees, and performance. Daspit et al. (2016) regards a family's vision and intention for transgenerational sustainability as some of the most important characteristics distinguishing family and non-family businesses. Similarly, shared goals could result in a higher degree of cohesiveness and commitment of the workforce, which contributes to creating potential innovations advantages over non-family businesses (Fukuyama, 1995; Lyman, 1991).

De Clercq and Belausteguigoitia (2015) suggested that high levels of the presence of common goals and high levels of trust between different generations can facilitate the conversion of intergenerational strategy involvement into innovation pursuits. These authors suggested that family businesses with innovative aspirations can benefit from promoting adherence to collective goals and building trust-based relationships among family members who belong to different generations. The present study posits that innovation will be higher when the different generations share similar goals.

Null Hypothesis 5a: There is no relationship between similar goals across generations and innovation.

Alternative Hypothesis 5a: When the goals of different generations are similar, the business will present higher levels of innovation.

The different goals and objectives of the respective generations can lead to conflict in terms of generational succession conflict (Gersick et al., 1997; Stewart, 2017). Kotlar and De Massis (2013) referred to a bargaining process used to achieve goal consensus, which intensifies during succession. Resistance to change in family businesses is well recognised (Boeker, 1989: 150; Pieper et al., 2013). Because personal goals and organisational goals are more strongly aligned via ownership (Efendy et al., 2013), a lack of goal alignment in family businesses can specifically be argued to result in conflict. Cassia et al. (2012: 2913) highlighted conflict as a major issue in family business research, suggesting that the "mixture of blood and professional relationships" between group members impacts the decision-making processes. The study by Cassia and colleagues (2012)

found less rational decision-making processes and more frequent conflicts in family businesses than in non-family businesses. The present study argues that differences in terms of goals between generations will be associated with higher levels of task and relationship conflict. Based on the proposed impact of goal alignment between generations on both innovation, this study posits that whether goals between generations are similar moderates the relationship between conflict and innovation.

Null Hypothesis 5b: There is no relationship between similar goals across generations and conflict.

Alternative Hypothesis 5b: When the goals of different generations are similar, the business will present lower levels of conflict.

Null Hypothesis 5c: Whether goals between generations are similar does not impact the relationship between conflict and innovation.

Alternative Hypothesis 5c: The relationship between conflict and innovation is moderated by whether the goals between generations are similar.

3.5.5. Family Essence: The intention to transfer the business to the next generation

The evaluation of the impact of the intention to transfer a family business to the next generation (Question 2.1) is the first aspect of the family essence dimension of family influence and therefore relates to the behaviour of those who control the business. Habbershon and Williams (1999) argued that transgenerational vision is at the core of this behaviour, which is posited to change the dynamic of the enterprise (Nicholson, 2008) and lead to feelings of personal and social fulfilment that cause family members to guard the well-being of the business as a family business (Arregle et al., 2007). This intention of generational succession is also strongly related to the preservation of socio-emotional wealth, and the desire for family control and influence through dynastic succession (Berrone et al., 2012). If owners have a vision for the business that includes intentions for transgenerational control, they are likely to include socio-emotional benefits that are feasible only if the family maintains transgenerational control (Zellweger et al., 2011).

The intention to transfer the business to the next generation also relates to a long-term orientation (Bergfeld & Weber, 2011), which could be a key differentiator of family businesses in terms of innovation (Konig et al., 2013), because of longer investment cycles and commitment that spans across generations. This is particularly relevant to product innovation (Cassia et al. 2012), which could benefit from less pressure for short-term paybacks and more attention to ensure the longevity of the business (Bertrand & Schoar, 2006). The present study subsequently posits that family businesses that have the intention of generational succession will be more innovative than those who do not have that objective:

Null Hypothesis 6a: There is no relationship between the intention to transfer the business to the next generation and innovation.

Alternative Hypothesis 6a: Family businesses that intend to transfer the business to the next generation, are associated with higher levels of innovation.

The different goals and objectives of the respective generations can lead to conflict in terms of generational succession conflict (Gersick et al., 1997; Stewart, 2017). The intention to transfer the business to the next generation motivates the accumulation or preservation of socio-emotional wealth (Li et al., 2015), which could lead to conflict in terms of employment of children, compensation, succession and future strategy and direction (Stewart, 2017). The following hypothesis was therefore developed in terms of the intention to transfer the business to the next generation:

Null Hypothesis 6b: There is no relationship between the intention to transfer the business to the next generation and conflict.

Alternative Hypothesis 6b: Family businesses with the intention to transfer the business to the next generation are associated with higher levels of conflict.

3.5.6. Family essence: Family commitment

As one of the components of family essence measured by the present study, family commitment is posited to lead to a relatedness, which enhances autonomy, trust and collectivism (Corbetta & Salvato; 2004), resulting in a stronger innovation-supportive stewardship culture (Bammens et al., 2010). Eddleston et al. (2008) suggested that high levels of shared commitment to the business can increase the sense of mutual interdependence, reciprocal altruism and promote pro-organisational helping behaviours supportive of long-term organisational goals. Lumpkin and Brigham (2011) highlighted that family businesses tend to have a relatively high degree of intentionality of commitment to achievement and perseverance.

The present study posits that high levels of commitment to the family business will positively influence innovation. It is therefore proposed that family commitment results in behaviour which is conducive to innovation. Zahra et al. (2008) suggested that family commitment could lead to strategic flexibility – which Carnes and Ireland (2013: 1400) deem important to respond to changes and pursue innovation. It could be argued that this influence of family commitment in terms of flexibility was also reflected in a study by De Massis et al. (2015), which studied process and product conflict in family and non-family businesses and found that family businesses showed high levels of decisional autonomy given to the project leader. Commitment to the family reputation is also deemed to be a stimulus to create excellent and quality products, therefore positively impacting product innovation (Dunn, 1996).

Over and above the behavioural influence, family commitment could yield governance which could be conducive to innovation. Family commitment supports long-term investment and job security (Bodwell & Chermack, 2010; Konig et al., 2013), which is suggested to positively influence innovation and specifically, radical innovation (Bodwell & Chermack, 2010). Based on the potential behavioural

and governance advantages brought about by higher family commitment, the following hypothesis was developed in terms of evaluating the role of family commitment:

Null Hypothesis 7a: There is no relationship between family commitment and innovation.

Alternative Hypothesis 7a: Family businesses with high levels of family commitment are associated with more innovation.

Refer to Appendix H for the hypotheses of the different types of innovation.

Conflict is acknowledged as a “major issue” in family business research (Cassia et al., 2012: 2913). Family commitment could, however, lead to a relatedness, which results in a stronger stewardship culture (Bammens et al., 2010; Corbetta & Salvato, 2004) that could prevent potentially beneficial task conflict from becoming harmful relationship conflict (Ensley et al., 2002). It could therefore be argued that high levels of family commitment prevent conflict from escalating to harmful levels. This view is supported by a study by De Massis et al. (2015), suggesting that social capital and close relationships of family businesses could allow them to mitigate conflict. Similarly, Ensley and colleagues (2002) argued that team members who experience a high sense of belonging should be better able to manage conflict than teams with a lower sense of cohesion.

Null Hypothesis 7b: There is no relationship between family commitment and conflict.

Alternative Hypothesis 7b: Family businesses with high levels of family commitment are associated with less conflict.

Refer to Appendix H for the hypotheses of the different types of conflict.

Building on the previous two hypotheses, the present study posits that family commitment has a moderating influence on the relationship between conflict and innovation. This implies that at high levels of family commitment, higher levels of conflict will be associated with higher levels of innovation. At lower levels of family commitment, higher levels of conflict will be associated with lower levels of innovation.

Firstly, if high family commitment is conducive to high innovation – through the benefits of relatedness (Corbetta & Salvato; 2004), innovation-supportive stewardship (Bammens et al., 2010), enhanced autonomy and flexibility (Zahra et al., 2008) and pro-organisational helping behaviours (Eddleston et al., 2008) – internal family dynamics, such as conflict, might be of minor relevance, as long as the capability to innovate is maintained over the long term (Bergfeld & Weber, 2011). Secondly, if higher family commitment prevents task conflict from spilling over to negative relationship conflict (Ensley et al., 2002), the potential benefits of task conflict, such as seeing multiple perspectives (Cosier & Dalton, 1990) and making better decisions (Simons & Peterson, 2000) could come to fruition, further enhancing innovativeness.

Conversely, with low levels of commitment to the business, family members may desire a position in the family business, not because of commitment to its goals or growth, but to protect their

inheritance rights and to ensure access to business resources (Eddleston & Kidwell, 2012). It could be argued that low levels of commitment could lead to risk-adversity, based on the preservation of socio-emotional wealth, as well as nepotism and incompetent managers who are not monitored or disciplined (Dyer, 2010). The present study therefore posits that with high family commitment, task conflict will increase innovation and that with low family commitment, task conflict will reduce innovation. Through Hypothesis 7c, the present study suggests that family commitment prevents task conflict from escalating into relationship conflict and consequently leverages the potential benefits from task conflict in terms of increased innovation. For the purpose of the moderator analyses, only task conflict was considered. Previous studies have shown that relationship conflict generally has a negative impact in innovation, while task conflict can be constructive (De Clercq et al., 2009; De Dreu, 2006; Li & Li, 2009; Lu, Zhou & Leung, 2011).

Null Hypothesis 7c: Family commitment does not influence the relationship between task conflict and innovation.

Alternative Hypothesis 7c: Family commitment moderates the relationship between task conflict and innovation.

Refer to Appendix H for the hypotheses of the different types of innovation.

3.5.7. Family Essence: Non-economic family goals

Non-economic family goals were studied as a dimension of family essence. Family businesses may have particularly complex (Tagiuri & Davis, 1992) non-economic goals that could influence family business behaviour (Chrisman et al., 2012) and are a result of the preservation of socio-economic wealth (Gómez-Mejía et al., 2007; Gómez-Mejía, Cruz et al., 2011), particularly across generations (Rhodes & Lansky, 2013). The individual single items of the non-economic goals scale (Questions 3.5 to 3.7) were studied individually. This decision was based on the results of the reliability analysis, which suggested high deviation between the individual measures. Refer to Section 4.9.2.2.

3.5.7.1. Family harmony

The first non-economic family goal (Question 3.5) relates to family harmony as an important goal when making business decisions. Harmony has been found to be positively correlated to business performance (Ruiz et al., 2015), with Maas et al. (2005) suggesting that a family business without family harmony will struggle to be profitable. Ruiz et al. (2015) proposed that higher levels of harmony existing in family businesses reflect the pressures that the owning family exercises on the organisational social capital in its companies. This can be considered to demonstrate that harmony can indeed be a conscious priority in family business decision-making.

Although family harmony is proposed to yield better performance, the present study distinguished between a harmonious family business and harmony as a priority in terms of business decisions.

The present study adopted the view of Kraiczy et al. (2015), that research investigating the innovativeness of family businesses has often applied a risk-oriented perspective by identifying socio-emotional wealth as the main reference that determines business behaviour. It can therefore be argued that family harmony could be prioritised over the risk associated with innovation. Salvato, Chirico and Sharma (2010) presented a relevant example, highlighting that “even when the need for drastic change is recognised, it is not implemented for fear of losing family harmony”. The present study subsequently proposed that prioritising harmony as a non-economic family goal could hamper innovation, because of risk adversity and the desire to preserve social ties with family members (Berrone et al., 2012).

Null Hypothesis 8a: There is no relationship between harmony as an important goal when making business decisions and innovation.

Alternative Hypothesis 8a: Family businesses that regard harmony as important when making business decisions are associated with less innovation.

Building on Hypothesis 5a, the present study proposed that harmony as a non-economic family goal moderates the relationship between task conflict and innovation. Family businesses that prevent or avoid conflict in order to preserve harmony, will not benefit from the benefits of task conflict, resulting in lower innovation (Cosier & Dalton, 1990) and fewer perspectives to consider during decision-making (Simons & Peterson, 2000). Therefore, if family is viewed as an important consideration when making business decisions, innovation will decrease when task conflict increases:

Null Hypothesis 8b: The importance of harmony as a family goal when making decisions does not influence the relationship between conflict and innovation.

Alternative Hypothesis 8b: Harmony as a non-economic family goal moderates the relationship between conflict and innovation.

3.5.7.2. Social status

The second non-economic family goal (Question 3.6) relates to the social status of the family as an important factor when making family business decisions. The desire to maintain a positive image, is reflected by the family’s need to preserve both the family and the business reputation and the social status of the family in the community (Berrone et al., 2010; Binz et al., 2013; Binz et al., 2017). This non-economic family goal is of specific relevance to the wine industry, where decisions regarding pricing and product positioning may be influenced by social status (Morton & Podolny, 2002). A Californian study by Benjamin and Podolny (1999) suggested that a wine producer’s status and social order in the California wine industry influences winemaking decisions. Overton and Banks (2015) argued that recent expansion of the global wine industry, especially in developing countries, has been characterised by investment decisions that seek status and reputation alongside or even in many cases, ahead of profits. The present study therefore proposed that social status as a non-economic goal could lead to innovative behaviour, to uphold the status of the family.

A study by Diaz-Mariana et al. (2018) identified legacy-building innovation, as activities associated with the pressure to perform, the desire to leave a mark on the firm for the next generation and ensure an enduring legacy. It can be argued that social status is related to the family's legacy and is a driver of pursued innovations with the intention to continue the legacy that the previous generation had built, while developing this legacy and ensuring its transfer to the following generation.

Null Hypothesis 9a: There is no relationship between the importance of social status when making business decisions and innovation.

Alternative Hypothesis 9a: Family businesses that regard social status as important when making business decisions are associated with higher levels of innovation.

The present study suggested that social status is a moderator of the relationship between task conflict and innovation. If family status is an important consideration when making business decisions, innovation will increase, despite higher levels of task conflict. This is based on the socio-emotional drive to preserve the status of the family in the long term (Berrone et al., 2012; Gómez-Mejía et al., 2007), which is posited to supersede the potential negative influence of task conflict, and could lead to a motivation to produce products of excellence (Dunn, 1996), with high prices to uphold the social status of the family (Morton & Podolny, 2002).

Null Hypothesis 9b: The importance of social status when making business decisions does not influence the relationship between task conflict and innovation.

Alternative Hypothesis 9b: Family status as a non-economic family goal moderates the relationship between task conflict and innovation in South African wine industry family businesses.

3.5.7.3. Family identity

The next non-economic family goal was adopted from the non-economic family goals scale of Chrisman et al. (2012) and relates to the strength of the link between the identity of the family and the business (Question 3.7). This link is regarded as a family goal because the decisions and actions of family businesses may be driven by the desire to maintain the family's identity (Lumpkin & Brigham, 2011) and has been identified as a non-economic family goal in several family business studies (including De Massis, Di Minin & Frattini, 2015). It can be argued that family businesses can become more committed to their business as not only their financial, but also their social resources (such as reputation and identity) are linked to the family and are dependent upon the success of the business much more directly than in the case of non-family businesses (Zellweger et al., 2013).

A study by Filser et al. (2018) argued that well-functioning families, that feel responsible for their families and their businesses, and are deeply involved in the firm's processes (Teal & Hofer, 2003), will be more prone to identify themselves with the firm (Gomez-Mejia et al., 2007). Family businesses are characterised by deep involvement of family and it is often natural for family members to identify with the business (Sharma et al., 2012). Because business and family are often very intertwined,

family members often derive their place in the world and sense of self and identity from this enterprise (James, Jennings & Breitzkreuz, 2012). Family members manifest a strong sense of attachment and identification to the family business (Björnberg & Nicholson, 2012). Monti and Salvemini (2014) suggested that family identity can influence family businesses and that the founders' identity can specifically play a significant role in strategic decision-making, including innovation. According to Dawson, Sharma, Irving, Marcus and Chirico (2015), in many instances, senior generation family members devote significant efforts to instil later-generation members with the sense of pride, accomplishment, and satisfaction they feel towards the family enterprise (Miller & LeBreton Miller, 2006). This, in turn, encourages younger members to identify with the firm, to be proud of their legacy, and to experience a desire to stay in their family enterprise.

Since family members view the company as an extension of their own identity (Dyer, 1992), they are highly committed to the success and well-being of both the company and the family (refer to Section 2.6.2) and are especially focused on preserving a positive family business image and reputation (Sharma & Manikutty, 2005; Westhead et al., 2001). Dawson et al. (2015) suggested that later-generation members who derive their sense of self and identity from the business and are provided with opportunities aligned with their career interests, are more likely to have an affective commitment to the organisation. It can be argued that, when a family's identity is closely linked to that of the family business, the success of the business is of more significant, personal value to the owners. This is specifically relevant in the South African wine industry, where the name of the business refers to the surname of the family (including Raats Family Vineyards, Le Riche Wines, Sadie Family Vineyards, Alheit Vineyards and Badenhorst Family Wines).

A recent study by Gast et al. (2018) suggested that when the identities of the family and the firm are strongly intertwined, innovation-related decisions may be framed in a long-term perspective and urge family businesses to invest in innovation to remain competitive and to retain positive identity endowments from the firm in the long run. The present study argued that a close link with the identity of the business acts as a motivation for family members to be innovative.

Null Hypothesis 10a: There is no relationship between innovation and a close link between the business and the identity of the family.

Alternative Hypothesis 10a: A close link between business and family identity is associated with higher levels of innovation.

Building on Hypothesis 10a, the present study posits that a close link between the identity of the business and the identity of the family, will moderate the relationship between conflict and innovation. When there is a close link between the identity of the family and the identity of the business, this link to the business becomes an effective endowment of family owners (Berrone et al., 2012), which the family would aim to preserve. As in the case of family social status, the present study argued that when the identity of the business is closely linked to that of the business, the socio-emotional drive to uphold the identity of the business in the long term (Berrone et al., 2012; Gómez-Mejía et al.,

2007), could supersede the potential negative influence of task conflict, and could be a motivation to be more innovative.

Null Hypothesis 10b: A close link between the business and the family identity does not influence the relationship between task conflict and innovation.

Alternative Hypothesis 10b: A close link between the business and the family identity moderates the relationship between task conflict and innovation.

3.5.7.4. Community contribution

Socio-emotional wealth is viewed as a factor guiding family values toward non-economic outcomes, including goals that impact the family business's community (Yu, Ding & Chung, 2015). According to Fitzgerald, Haynes, Schrank, and Danes (2010), individuals with positive attitudes about their local communities were more likely to make contributions to the community. Furthermore, they found that business owners in economically vulnerable communities were willing to assume more responsibility to fill leadership positions in the community and make contributions of financial and technical assistance than those in less vulnerable communities. This is particularly relevant in the South African context, where farmworker communities are regarded as vulnerable (Devereux, Hall & Solomon, 2019). It can therefore be argued that a family business that contributes to its community is associated with a long-term orientation to improve the circumstances of the community in which the business operates.

Diaz-Moriana et al. (2018) related conserving innovations to the long-term sustainability of the community. Their study identified conserving innovations as innovations which, aside from creating future value, were considered crucial for the continuity of the family business's reputation and traditions. These innovations were connected to the need for safeguarding the family's long-standing mission and reflected the importance of the past. The present study subsequently posited that a strong commitment to the community contributes to the business's motivation for long-term growth and existence, which necessitates innovation (Leenen 2005; Zahra, 2005). Furthermore, Li et al. (2015) provided evidence that succession intention influences corporate philanthropy, indicating that community contribution is influenced by socio-emotional wealth.

Null Hypothesis 11a: There is no relationship between the importance of making a meaningful contribution to the community and innovation.

Alternative Hypothesis 11a: Family businesses that regard making a meaningful contribution to the community as important are associated with higher levels of innovation.

3.5.7.5. Job creation

The present study measured job creation as a non-economic goal with the single item measure: "The business needs to provide job opportunities for the next generation". The phrase "for the next generation" implies that it specifically refers to the next generation of family members.

Job creation for family members is an established topic in family business research (Andersson et al., 2002; Chrisman et al., 2004; Chua, Chrisman & Steier, 2003; Zellweger & Nason, 2008). Family business leaders are suggested to often feel compelled to offer jobs and promotions to family members (Eddleston & Kidwell, 2012).

The present study posits that creating jobs for the next generation is associated with higher levels of innovation, based on the commitment associated with socio-economic wealth, to retain the business in the control of the family (Berrone et al., 2012: 259). Furthermore, family commitment is posited to support job security (Bodwell & Chermack, 2010; Konig et al., 2013; Hauswald et al., 2016), which is suggested to positively influence innovation and specifically, radical innovation (Bodwell & Chermack, 2010).

Null Hypothesis 12a: There is no relationship between the need to create jobs for the next generation and innovation.

Alternative Hypothesis 12a: Family businesses which indicated that they need to create jobs for the next generation are associated with higher levels of innovation.

3.5.8. Family Essence: Relationship conflict

Family businesses are notorious for conflict (Dyer, 2010) and conflict is a “major issue” in family business research (Cassia et al., 2012: 2913). Kellermanns and Eddleston (2004) suggested that family businesses that have the least amount of relationship conflict between family members, and, specifically, between generations, may be most successful in transitioning to the next generation. This is supported by the view of Sciascia et al. (2013) that relationship conflicts are likely to undermine potential advantages of beneficial task conflict by damaging the relational context for innovation. Based on the general consensus, that relationship conflict negatively impacts performance (De Wit et al., 2012; Dreu & Weingart, 2003; O’Neill et al., 2013), the present study also investigated the moderating role of relationship conflict between task conflict and innovation. In other words, under circumstances with low relationship conflict, task conflict is likely to have a positive effect on innovation in family businesses:

Null Hypothesis 13a: Relationship conflict does not influence the relationship between task conflict and innovation.

Alternative Hypothesis 13a: Relationship conflict moderates the relationship between task conflict and innovation.

3.6. CONCLUSION OF HYPOTHESES DEVELOPMENT

Due to the multiple dimensions of family influence, multiple sub-hypotheses are required to answer the research question. These hypotheses were discussed in this section, based on existing family business literature and structured according to a conceptual framework. A summary of the sub-hypotheses is presented in Appendix H.

The following section proposes a framework which further studies the potential moderating effect of the family essence dimensions of family influence through partial least squares structural equation modelling (PLS-SEM).

3.7. PROPOSED FRAMEWORKS TO ANALYSE THE MODERATING EFFECT OF FAMILY ESSENCE DIMENSIONS

Structural equation modelling was utilised to further investigate the potential moderating effects of family essence dimensions, family commitment and non-economic family goals, on the relationship between conflict and innovation. This was done based on the suggestion that involves the behaviour resulting from family involvement (Rutherford et al., 2008) and could therefore determine how involvement influences both innovation and conflict.

Several family business studies that utilised structural equation modelling were considered as examples for the present study, particularly in terms of scrutinising the role of moderators or mediators. One such example was the mediated model of Memili, Eddleston, Kellermans, Zellweger and Barnett (2010), that was used to explore how family ownership and family expectations influence family business image and entrepreneurial risk taking, and ultimately business performance.

A similar approach was followed by Eddleston and Kellermans (2007) to explain the varying impact of conflict on family businesses (refer to Figure 3.2). Their findings suggested that relationship conflict is negatively related to family business performance and that a participative strategy process is positively related to family business performance. This study proposes pathways of a participative strategy process or relationship conflict and does not include moderators or task conflict.

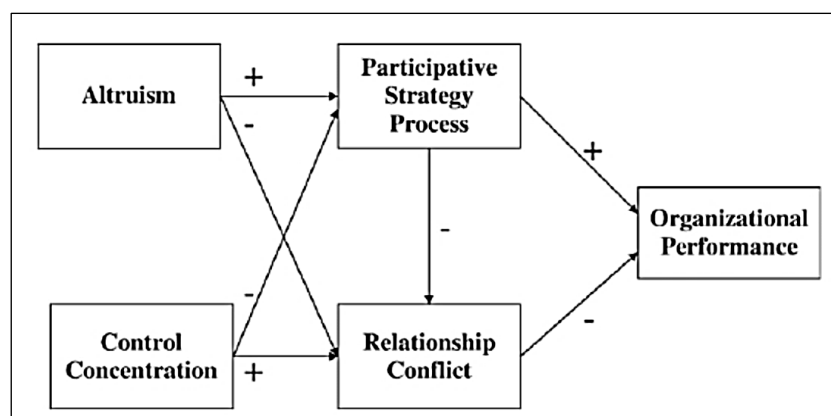


Figure 3.2: Conceptual model relating to business performance and relationship conflict

Source: Eddleston and Kellermans, 2007: 548.

While this format could hold potential for a similar model to investigate possible mediating roles in the present study, a PLS-SEM that evaluates moderators was required. A study about potential moderators between conflict and performance by Kellermans and Eddleston (2007) represented a model that could be adapted for use in the present study. Refer to Figure 3.3.

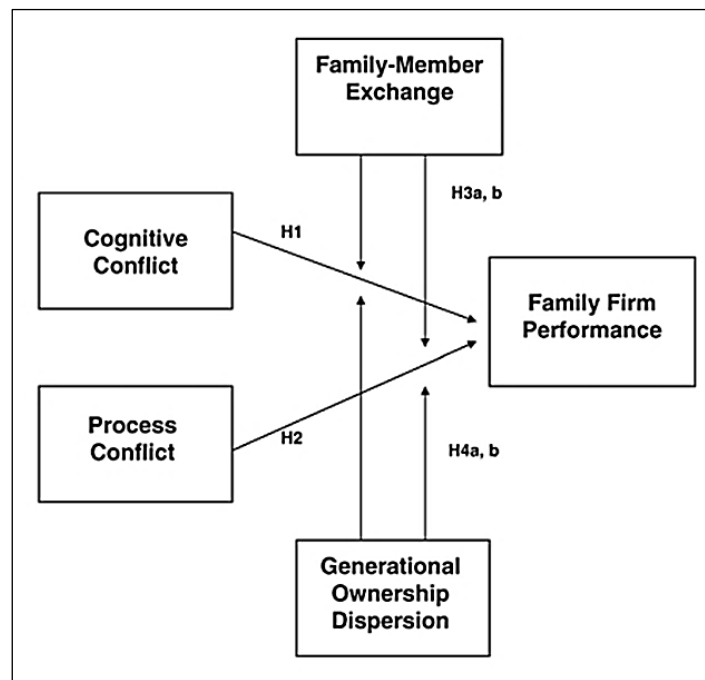


Figure 3.3: Conceptual model relating to business performance and conflict

Source: Kellermanns and Eddleston, 2007: 1049.

This format allows for different combinations of moderators to be evaluated, while distinguishing between different types of conflict, as proposed by Jehn (1995; 1997). While the basic path of this model was retained, constructs were adapted for the present study. Based on the framework utilised by Eddleston and Kellermanns (2007), a framework that incorporates the key measured components of family essence was developed. This new framework is presented in Figure 3.4.

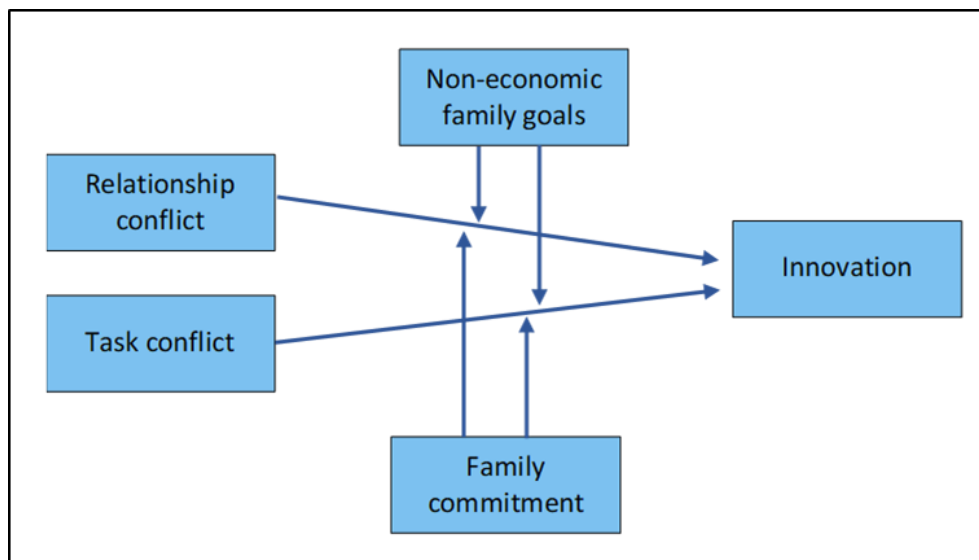


Figure 3.4: Conceptual framework relating to conflict, family essence and innovation

Over and above the multiple hypotheses outlined in Section 3.5, the model presented in Figure 3.4 was adopted to evaluate the moderating effect of family commitment and non-economic family goals on the relationship between conflict and innovation through partial least square structural equation

modelling. A discussion about this method, as well as the reasons why it was selected follow in Section 4.10.4.

3.8. SUMMARY

In order to fulfil the research requirements, a framework was required that can evaluate the measurement of latent variables and also test the relationships between latent variables within a relatively small sample. By investigating the potential moderating role of family commitment and non-economic goals on the relationship between conflict and innovation, this study has built on the research by, among others, Goncalo et al. (2010), Simons and Peterson (2000) and Xie et al. (2014) to better understand the relationship between conflict and innovation.

Conceptual models, as depicted in Figures 3.2 and 3.3 were presented and the research framework was discussed as the basis for the empirical study that followed. These models were based on and adapted from current literature, after alternatives had been considered. The proposed model (Figure 3.4) was used to present results obtained through the measuring instrument outlined in Chapter 4. The next chapter is concerned with a discussion of the research design and methodology.

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

4.1. INTRODUCTION

This chapter explores the research methods and design that were adopted for this study. The research paradigm, study population, criteria for participation, sampling techniques and utilised data sources are outlined. Then the process is explained that was followed to design and distribute a questionnaire as research instrument to measure the relevant attributes of family influence, organisational conflict and innovation. The validity and reliability of the constructs utilised are then discussed. The chapter closes with an explanation of the statistical techniques applied.

4.2. RESEARCH PARADIGM AND PHILOSOPHY

In social sciences (including family business studies) a 'paradigm' is a way of examining social phenomena from which particular understanding of these phenomena can be gained and explanations attempted (Saunders et al., 2009). According to Collis and Hussey (2009), a 'research paradigm' refers to the process of research practice based on the researcher's philosophies and assumptions about the world and the nature of knowledge. The present study adopted a regulation perspective, whereby it is assumed that there is underlying unity and cohesiveness in societal systems and structures (Saunders, Lewis and Thornhill, 2016). According to Saunders et al. (2016: 132), a large percentage of business and management research can be classified as regulation research that "seeks to suggest how organisational affairs may be improved within the framework of how things are done at present, rather than radically challenging the current position".

Working with an observable reality to provide credible data, a positivism philosophy was adopted (Bell, Bryman & Harley, 2018). This is also the approach followed in most investigations reported on in the literature review (examples include Gast et al., 2018; Hillebrand, 2018; and Kellermanns et al., 2007). Positivism is a position which advocates the application of the methods of the natural sciences to study social reality (Bryman & Bell, 2011), which entails working with an observable social reality to produce generalisations (Saunders et al., 2016). The researcher assumes that reality (ontology) is ordered and real. The researcher's methods were designed to yield hard data and facts, uninfluenced by human bias. In order to develop observable and measurable facts, the researcher accepted the view that only phenomena that can be measured would lead to the production of credible and meaningful data (Crotty, 1998). In the present study, the researcher's view of what constitutes knowledge (epistemology) involves scientific methods, observable and measurable facts, as well as causal explanations and predictions (Saunders et al, 2016).

This study attempted to suggest how the understanding of family business innovation and conflict may be improved within the framework about the moderating role of family influence in the relationship between conflict and innovation in the South African wine industry. With this type of

positivistic study, dealing with human behaviour and social sciences (organisational behaviour), analyses are carried out in a rigorous manner, though specific to the social environment.

Accordingly, the researcher's role and views were external, objective and independent of social actors and observable phenomena were utilised to provide credible data. This approach is highly structured and involves large samples (Saunders et al., 2009). The approach of utilising large samples was applied to obtain results based on the observable phenomena at many businesses, in order to gain a valid representation of family businesses in the South African wine industry. Bryman and Bell (2011) suggested that quantitative research can be described as a research strategy that emphasises the quantification in the collection and analysis of data, which entails a deductive approach to the relationship between theory and research. The accent is subsequently placed on the testing of theories (Bell et al., 2018).

The current research has built on the work of researchers in the field of organisational theory and its derivative activities, focusing on three key areas: family business, conflict and innovation. A quantitative research approach such as this is commonly utilised for descriptive or explanatory business research (Saunders et al., 2009: 362) and is viewed as objective, because it focuses on the facts of social phenomena. This study utilised a large-scale survey as the primary approach to address the problem statement. Farrington and Jappie (2016) indicated that there was a preference for quantitative over qualitative research methods in South African family business studies.

Since this study aimed to investigate the relationships between the variables of family influence, conflict and innovation through structural equation modelling, the study can further be described as explanatory (Saunders et al., 2009). Building on existing scholarly knowledge, the researcher followed a deductive approach by utilising literature to identify theories and ideas, through which a research framework was developed. The researcher, on the basis of what is known about a particular theoretical consideration, deduces hypotheses that are then subjected to empirical scrutiny (Bryman & Bell, 2011).

Cross-sectional research was applied, since the study represents a snapshot of the phenomena pertaining to innovation and conflict in the wine industry at a particular time. This study was based on the observable phenomena recorded at many wine industry businesses, which were used to investigate the relationship between key constructs. A cross-sectional study would therefore provide sufficient insights to describe the incidence of broader phenomena. Cross-sectional studies often employ the survey strategy (Easterby-Smith, Thorpe, Jackson & Lowe, 2008; Saunders et al., 2009) and have been the most frequently-employed method in South African family business research (Farrington & Jappie, 2016).

4.3. STUDY POPULATION

A population can be defined as any complete group or body of people, in other words, all elements that meet the criteria for inclusion in a study (Collis & Hussey, 2009; Zikmund, 2003 cited by Wepener, 2014). The theoretically-defined study population for this study comprised family businesses in the South African wine industry.

The South African wine industry was selected as a suitable industry to study family businesses, since most wine cellars and wine grape producing farms are family businesses (Brundin & Wigren-Kristoferson, 2013) and the researcher has significant professional experience in this sector. The South African wine industry comprises 546 wineries and 3 029 grape producers (Sawis, 2017).

The membership list of VinPro represents more than 3 500 wine grape producers, wine estates and wine producers. VinPro supplied their database and gave the researcher permission to contact their members. There are notable differences between a primary wine grape producer and a wine cellar: A wine cellar produces, distributes, markets and sells wine, while most primary grape producers still produce grapes for co-operative producer cellars (Sawis, 2017).

Wine cellars offer very different innovation possibilities, such as winemaking processes, new product development and marketing (Alfiero, Broccardo, Cane & Esposito, 2018). Wine cellars were the focus of this study and was used as the sample frame. The South African Wine Industry Directory (SAWID) 2015/16 was used as the source of contact details. The SAWID provides a basic description of the owner of each wine industry business, which varies from businesses that are listed on the Johannesburg Stock Exchange (JSE), such as Distell, to businesses that are owned by family trusts, individuals or groups. For the purpose of this study, the businesses that were privately owned by individuals, family trusts or relatives based on their surnames, were considered for the list that received the questionnaire. This amounted to 485 businesses.

Since the SAWID is updated annually and wine producers are required to be registered on the database of the South African Wine Industry Information & Systems (Sawis), on which the Directory listings are based, it can be assumed that every winery is listed in the SAWID. All the businesses with ownership held by a family according to SAWID, received the questionnaire. It can therefore be argued that the entire study population was contacted for the survey of the present study.

As one of the oldest industries in South Africa, the wine industry comprises largely of family-owned businesses as both producers of wine grapes and wine. The large number of family businesses that are active in the South African wine industry, make it an interesting sector for family business studies.

Further reasons for the suitability of the South African wine industry as a study population correspond with those cited in a family business study by Zahra et al. (2008: 2041), where the food industry was chosen to study a culture of commitment:

- The wine industry has a wide variety of businesses of many sizes (i.e. large and small) and types (e.g. family and non-family-owned; public and privately held) (Ungerer, 2015).
- Because the businesses in this industry deal with products for human consumption, safety and reputational constraints pressure them to consider the long-term implications of their decisions.
- The wine industry is a dynamic and competitive market, with numerous researchers studying innovation in this sector (including Doloreux & Lord-Tarte, 2014; Hojman, 2015).
- The study population has been clearly defined as family businesses in the South African wine industry and the suitability of this population was outlined, based on previous studies. While the ownership descriptions in the SAWID database were scrutinised to determine which businesses received the questionnaire, further criteria needed to be met to participate in the study. These criteria are outlined in the next section.

4.4. CRITERIA FOR PARTICIPATION

The present study was specifically targeted at family businesses and certain criteria had to be met to participate. The present study utilised literature (refer to Section 2.4.2), as well as a definition of a family business presented by André Diederichs of the Family Business Association of South Africa (FABASA), to determine criteria for participation.

In line with FABASA and previous studies (including Kellermanns et al., 2012: 91; Kotlar & De Massis, 2013: 1266), ownership was the first criterion, requiring that the family owns a majority share of the business (Question 1.1). As noted in Section 4.7.1 of this chapter, Diederichs argued that, for a business to qualify as a family business, the family should be able to determine the strategic direction of the business (FABASA, 2016). This second criterion is used by FABASA to qualify family businesses and also relates to family managerial control (Question 1.2).

The third criterion entailed that the respondent should be part of the top management team of the family business (Question 1.3). This was based on the argument of Zahra et al. (2008: 1041) that respondents who are part of the top management team are “likely to be well aware of the business’s organisational culture”.

Question 1.1.	The family owns at least 51% of the business
Question 1.2.	The family can determine the strategic direction of the business
Question 1.3.	I am part of the management team of the family business

Lastly, the fourth criterion entailed that only businesses with at least two family members actively involved in the management of the business were considered. This criterion was adapted from Kellermanns et al. (2012: 91) and Kotlar and De Massis (2013: 1267) and was specifically incorporated because of the focus on relationship-centred issues, conflict and family influence.

Question 2.4.	How many family members are involved in the management of the business?
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4.5. SAMPLING TECHNIQUE

The sampling frame of this study is the complete list of all privately-owned wineries, from which the sample was drawn (Saunders et al., 2009: 214). In this case it was the privately-owned listings of the SAWID 2015/16 database. A complete list of South African wineries defined as family businesses was not available and ownership in the SAWID 2015/2016 database was used as the criterion for the sample frame. The survey was sent to all the privately-owned wineries in the SAWID 2015/2016 database. The wineries that responded to the questionnaire, were consequently subjected to the criteria for participation (refer to Section 4.4).

In order to assess whether the sample of wineries that responded and met the family business criteria was representative of South African family wineries, the sample was compared to the sampling frame in terms of the size of the business. The size of the business was measured in terms of number of employees in the present study (refer to Section 5.3.1). The majority of the sample (72%) comprised small to medium wineries with less than 50 employees. This corresponds with the distribution of privately-owned wine cellars, based on size in terms of tonnes of grapes crushed, as presented by SAWIS (2015). Small wineries represented 45% of privately-owned wineries, while medium-sized wineries represented 30.5% of privately-owned wineries. Similarly, very large wineries represent only 4% of privately-owned South African wineries and wineries that employ more than 200 people represented 5% of the present study's sample. Based on business size, evidence was presented which suggests that the sample is sufficiently representative.

Neither Sawis (2015) nor the SAWID 2015/2016 database have data that represent the age of privately-owned wineries. It is, however, a well-known fact that the majority of private wineries only started producing their own wine after the abolition of Apartheid in 1994 and deregulation in 1997 and the subsequent economic reform that resulted in new players and constellations entering the wine trade (Brundin & Wigren-Kristoferson, 2013). The relative youthfulness of most wine industry private businesses is reflected in the distribution of the sample, whereby more than 65% of the participating businesses were less than 50 years old.

In order to determine potential non-response bias, eight wineries that did not respond to the survey request were telephonically asked about their reasons for not participating. Another eight wineries that did not respond were emailed to determine why they had not participated. Reasons varied from busy schedules to simply forgetting to complete the survey before the deadline. The reasons

provided were not deemed a reason for concern in terms of non-response bias, because they did not indicate potential concerns in terms of methodology or specific bias towards participation.

4.5.1. Sample size

A sample is required to represent the population of a specific study and should be sufficient in terms of the requirements of the statistical analysis applied (Bell & Bryman, 2018). Saunders et al. (2009) indicated that the response rate achieved for similar surveys that have already been undertaken can be considered to estimate an adequate response rate. To the researcher's knowledge, no formal research of family businesses in the South African wine industry had been undertaken and there were subsequently no studies to compare in terms of the required response rate.

For the 48 South African family business studies researched by Farrington and Jappie (2016), the average sample size for quantitative studies was 348, the largest being 931 respondents, and the lowest being 102 respondents. These were, however, not necessarily sector- or industry-specific studies. The sector-specific studies cited in the present study also varied, depending on the size of the industry and therefore study population. Examples include 168 useable questionnaires returned (8.56% response rate) in the South African tourism industry (Tassiopoulos, 2010) and 248 family businesses (9.8% response rate) in the USA food processing industry. Schulze et al. (2003) cited Geletkanycz (1997: 622) and Hambrick, Geletkanycz and Fredrickson (1993), indicating that studies that target top management teams have a typical response rate of ten to twelve percent. However, Baruch (1999) proposed that for academic studies involving top management or organisations' representatives a response rate of 35 percent is reasonable.

Because no similar family business studies had been conducted in the South African wine industry, there were no studies that could directly serve as guidelines. Based on family business studies involving specific sectors and top management teams, a response rate of more than 25 percent was deemed sufficient. In terms of the number of responses, the PLS-SEM minimum requirements were the main consideration in determining sufficient responses (refer to Section 4.10.4 for a discussion of PLS-SEM).

Hair, Black, Babin and Anderson (2010: 662) suggested the following minimum sample sizes:

- 100: models with five or fewer constructs, each with more than three items, and with high item communalities (0.6 or higher).
- 150: models with seven or fewer constructs, modest communalities (0.5), and no under-identified constructs.
- 300: models with seven or fewer constructs, lower communalities (below 0.45), and/or multiple under-identified (fewer than three items) constructs.
- 500: models with large numbers of constructs, some with lower communalities, and/or having fewer than three measured items.

The present study meets the requirements suggested by Hair et al. (2010) in terms of the minimum sample size, with a total of 118 models and sufficient item communalities. From the 485 questionnaires that were emailed, 181 completed responses were received. Only two of these responses did not meet the criteria pertaining to ownership, influence on strategic direction and position on the top management team. However, 34 participants noted that only one family member was involved in the management of the business and were therefore not considered for this study. A total of 145 valid and useable surveys were completed, representing 118 businesses. This represents a response rate of 24.3 percent in terms of businesses. Considering that 19.9 percent of the received responses were rejected based on the criteria for participation – most notably the requirement of more than one family member in the management team – the population of South African wine industry family businesses is likely to be less than the 485 businesses that were emailed, solely based on ownership in the SAWID.

The present study's response rate of 24.3 percent is similar or higher than rates reported in other family-related studies (including Zahra et al., 2008), as well as response rates of surveys targeting top management teams (including Schulze et al., 2003). The relatively high initial response rate can be ascribed to direct and personal emails and perhaps a genuine interest in the topic (Sheehan, 2001). Furthermore, the lucky draw of 12 bottles of Graham Beck *Method Cap Classique* wine could have contributed to a satisfactory response. Refer to Section 4.9.4 for further details about the required sample size for CFA and PLS-SEM.

4.5.2. Units of analysis

The entities or cases that a researcher studies and on which data is collected and analysed to draw final conclusions are referred to as units of analysis (Collis & Hussey, 2009; Mouton, 1996). In the present study the entities that the researcher studied are family businesses, and data was collected through the answers provided by members of the management teams of the respective businesses. The constructs measured variables pertaining to innovation, family influence and conflict in the context of business at a business level, based on responses from individuals involved in the management team.

Prior research by Ram and Holliday (1993) established that the perception of the chief executive, managing director, or chairman of a family business is an important defining variable. This approach is supported by the family business study by Kellermanns et al. (2012), who cited Kumar et al. (1993) and Seidler (1974), arguing that CEOs are considered reliable key informants. However, an increasing number of researchers view the top management of businesses as worthwhile informants. A family business study by Sciascia et al. (2013) targeted the businesses' two highest executives (the CEO and the next-highest senior position). Zahra et al. (2008) argued that the top management team were also most likely to be well informed and aware of the business's organisational culture and strategy-related issues and found that responses from CEOs/owners did not differ significantly from those provided by top management team members.

Kellermanns et al. (2012: 91) followed the examples of Chua et al. (1999) and Sharma, Chrisman and Chua (2003) by attempting to obtain the “richest information possible” through gathering information from multiple respondents in top management positions from each family business. The questionnaires for the present study were subsequently directed at the top management teams of the family businesses, attempting to obtain multiple respondents from each family business.

Although the study strived to obtain multiple respondents from each business, only 21 businesses were represented by more than one respondent. For the remaining 97 businesses, only one family member from top management responded. In line with the study by Kellermanns et al. (2012: 92), this was not deemed an insurmountable problem for the present study, as Zahra et al. (2008) argued that the top management team were most likely to be well aware of the business’s organisational culture and strategy-related issues since these respondents are considered reliable key informants.

In order to determine whether there was bias in terms of multiple responses from family business teams versus single responses from team members, analysis of variance (ANOVA) tests were done for all the multi-item scales (Appendix C). In all cases, at a five percent significance level, there was no significant difference between multiple responses and single responses. Both single and multiple responses were therefore included in further analysis.

A total of 145 valid and useable surveys were completed, representing 118 businesses. A total of 77.24 percent ($n = 112$) of responses were from family members, with 33 non-family members, who are at least at top management level, representing the remainder. Responses to each multi-item scale provided by family members did not significantly differ from those provided by non-family members and both respondent types were included in further analyses. Refer to Appendix D for detailed analyses of family members vs. non-family members.

Family businesses were the units of analysis of the present study ($N = 118$). For multiple responses repeated mix-model repeated measures Anova was applied. This technique specifically takes the possible correlation of the same experimental unit into account and is regarded as a suitable statistical technique for repeated measures of the same experimental unit (Kidd, 2019).

4.5.3. Data sources

Primary and secondary data sources were used in the present study. According to Bell and Bryman (2018), primary data refers to original data collected at the source, while secondary data is not collected directly from respondents or subjects, but collected by someone else prior to the applicable study. Secondary data includes existing data originating from books, journals, newspapers, reports, websites, published statistics and other surveys.

Secondary data was obtained by means of a critical review of literature, which was utilised to conceptualise a framework. This framework was then tested by primary data, obtained through a large-scale survey. The primary survey instrument utilised for this study was a set of 5-point Likert scale questionnaires. The options for the Likert scales were: “Strongly disagree, Disagree, Neutral,

Agree” and “Strongly agree”. These questions were supplemented by nominal scales to gain basic insight about the size and the age of the businesses.

For the present study, the Likert-type scales were adapted to a 5-point response format, to ensure uniformity with the rest of the questionnaire, anchored by “Strongly disagree” to “Strongly agree”. Saunders, Lewis and Thornhill (2009) cautioned that amendments should only be made to existing scales where absolutely necessary, since significant changes may impact upon the validity of the scale. Changing the format from a 7-point to a 5-point scale was, however, unlikely to impact validity or results, since the questions remained unchanged. Dawes (2008) suggested that neither 5-point and 7-point nor 10-point scales are less desirable from the viewpoint of obtaining data that will be used for regression analysis. “Therefore either 5-, 7- or 10-point scales are all comparable for analytical tools such as structural equation models in this respect” (Dawes, 2008: 75).

Saunders et al. (2009: 367) commented that explanatory research requires data to test a theory or theories. This means that the relationships between variables that are to be tested should be defined prior to designing the questionnaire. This requires a careful review of literature, as well as conceptualisation of research (Ghuri & Gronhaug, 2005). In the case of the present study, the large-scale survey was preceded by a literature review, supplemented by the researcher’s professional media research into wine industry family businesses and involvement in wine industry family businesses. A survey was undertaken using a sample of the target population, namely family businesses in the South African wine industry. Refer to the full list of questions in Appendix G.

4.5.4. Large-scale survey

To be able to sensibly analyse the relationships between the respective variables, it was anticipated that a large amount of data would be required. It was deemed appropriate for a web-based questionnaire to be utilised as a data-gathering instrument. The questionnaire is one of the most widely-used data collection strategies (Bell & Bryman, 2018; Collis & Hussey, 2003; Saunders et al., 2009: 361). Maas (1996: 91) commented that questionnaire surveys are useful in describing the characteristics of a large population included in a study and can be administered from remote locations.

Internet questionnaires are usually administered via email or a specific website. The former option allows the researcher to distribute the questionnaire itself, or via a link to the online questionnaire. For the present study, the questionnaire was administered through SURveys.sun.ac.za, the system utilised by Stellenbosch University. Saunders et al. (2009: 361) noted that internet questionnaires administered by email offer greater control because most users read and respond to their own emails. These authors also commented that the confidence that the right person has responded to the questionnaire is high, if using email.

4.6. QUESTIONNAIRE DESIGN

Dillman (2007) distinguished between three types of data variables which can be collected from questionnaires: opinion, behavioural and attribute variables. Since the aim of the questionnaire for this study did not only aim to gain insights about how family businesses and their employees behave, but also how the family members feel, both opinion and behavioural variables were examined. In addition to these, although to a lesser extent, attribute variables were also included, to gain further information about the family business's characteristics.

Questionnaires need to be compiled with great care. According to Maas (1996: 91), the design of the gathering instrument can influence the reliability and validity of a family business study. This is supported by Saunders et al. (2009: 371), who commented that the reliability and validity of collected data, as well as the achieved response rate depend largely on the design of the questions, the structure of the questionnaire and the rigour of the pilot testing. Critical factors that may influence the afore-mentioned issues are discussed in the following sections.

4.6.1. Cover letter

Respondents frequently hesitate, and may even be frightened to complete a questionnaire (Maas, 1996: 92). For this reason, it is necessary that the study and its objectives are briefly explained. Saunders et al. (2009: 371) stated that most self-administered questionnaires are accompanied by a cover letter, which explains the purpose of the study. Dillman (2007) also emphasised the importance of a cover letter by illustrating that the messages contained in the cover letter are likely to affect the response rate.

For the present study, the content of the email, with the link to SURveys.sun.ac.za, as well as the cover letter that preceded the questionnaire on SURveys.sun.ac.za provided information about the study. The initial email body was personalised to address a specific person – the CEO or highest-placed individual in the top management team. The family-owned winery business was also mentioned by name to make it more personal. The language of the covering email was decided based on the language of the specific family – who was in many cases familiar with the researcher (refer to Section 4.6.2. for a discussion of languages used). The email copy was kept short, but addressed critical aspects: the importance of the study, ethical clearance and the link to the questionnaire. This cover letter also clearly indicated that the survey should be completed by the top management team of the family business and requested that the recipient send the questionnaire to his or her management team.

The cover letter that preceded the questionnaire mentioned the study, the researcher's name, contact details, the association with Stellenbosch University Business School, background about the study topic, the expected duration of completing the questionnaire, the fact that the results would be made available to participants that provided contact details and the lucky draw, with the prize of 12 bottles of Graham Beck wine. The cover letter was addressed to the "family business leader" as the

respondent of the study, because SURveys.sun.ac.za does not allow for customised cover letters. The term 'leader' was used because it can serve as a collective term for 'manager, director or owner'. The due date for the completion of the questionnaire was indicated clearly. About three weeks were allowed for the completion and return of the questionnaire, which was deemed to be a reasonable period. The due date usually also puts the respondents, under some pressure to commit. The respective cover letters are attached as Appendix A and Appendix B. Also refer to Section 4.7.3 for the changes made to the cover letters, following stipulations from the ethical clearance process (refer Appendix E).

4.6.2. Question formulation and grouping

Saunders et al. (2009: 387) advised that the flow of questions must make logical sense to the respondent and should not just follow the flow of data requirements. Since the present study consisted of several scales and groupings of questions that respectively measure family influence, innovation and conflict, the logical flow mimicked the flow of the groupings.

Bean and Roszkowski (1995) suggested that survey clarity and simplicity are important in increasing the proportion of respondents who complete a survey; in addition, the authors suggested a survey should not begin with complex questions. In a South African study, Tassiopoulos (2010: 135) also advised that questions should be logically ordered, with the easier questions in the beginning followed by the more difficult ones later on. "In such a way, the respondents will not be scared away in the early stages of completing the questionnaire" (Tassiopoulos, 2010: 135). For this reason, more positive questions pertaining to family influence and innovation were positioned before the potentially negative topic of conflict.

Maas (1996: 94) further suggested that the language used should be that which is commonly used by the target population. For this purpose, a professional language practitioner who is based in the Western Cape winelands, grew up on a family-owned wine estate and specialises in translations and editing for the South African wine industry translated the questionnaire to Afrikaans, which is commonly spoken in the South African wine industry. To ensure that the subtle nuances are retained in the translation best practice of back-translating was applied (Brislin, 1970).

4.7. TESTING THE QUESTIONNAIRE

Preliminary testing of the questionnaire comprised two steps. The questionnaire was reviewed by a panel of experts, before being piloted on members of the Family Business Association of South Africa (FABASA, 2016). These steps are now covered in further detail.

4.7.1. Expert review

In line with recommendations by Worthington and Whittaker (2006) and best practice followed in family business studies such as Ingram et al. (2016), the items of the proposed questionnaire were reviewed by a panel of experts to ensure content validity. These authors commented that during this review, clarity, conciseness, grammar, reading level, face validity and redundancy are important. Even though this study did not attempt to develop a new scale (rather utilising adopted, existing scales), these considerations remained important in terms of questionnaire evaluation.

Because this is a South African wine industry study, the chosen panel were all South Africans based in the Western Cape (the most prominent wine-growing region), with sound knowledge and recent professional experience in family businesses in the wine industry. The details of the panel of experts are listed in Table 4.1.

Table 4.1: Panel of experts tasked with the questionnaire review

André Diederichs	The founding member of FABASA (Family Business Association of South Africa).
Prof Marius Ungerer	Associate Professor, University of Stellenbosch Business School (USB).
Ben Spies	An Industrial Psychologist and the managing director of the consulting group, Ben Spies and Associates (established in 1980).
Tertius Bruwer	PwC Director and leader of the PwC family business survey.

Following Bean and Roszkowski's (1995) call for simplicity of questionnaires, the review by a panel of practitioners was done with an objective of gaining suggestions related to clarity. The panellists were informed about the objectives and suggested methodology of the study.

They were asked to specifically comment on the following aspects:

- Are the questions clear and understandable?
- Is the flow of questions logical?
- How long did it take you to complete the questionnaire?

With regards to the afore-mentioned questions, the panel advised that the questions were understandable, that the flow of the questions was logical and that they took less than 15 minutes to complete the questionnaire. The general comments provided by the panel, as well as the responses to the suggestions are now discussed in further detail.

Diederichs suggested that only businesses that intend to transfer the business to the next generation should be considered as family businesses. This was not included as part of the criteria, but it was a question under the family influence section of the questionnaire. It was not incorporated into any scale or criteria, but was evaluated separately as component of family essence (refer to Section 3.2.3.1).

Question 2.1.	The family has the intention to transfer the business to a next generation
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Spies suggested that Likert scales could be replaced by questions that rank priority. This advice was not followed, due to complexities associated with analysis, while Likert scales were largely used in the existing, validated scales.

Ungerer suggested that the term 'family firm' should be changed to 'family business' throughout the questionnaire. Initially both 'family firm' and 'family business' were used, which Ungerer suggested could lead to confusion. This suggestion was followed – not only in the questionnaire, but in the entire research project.

Bruwer forwarded the questionnaire to several colleagues at PricewaterhouseCoopers, but they did not respond to the request, citing busy schedules. Prof Tobie de Coning, the Chief Director of Strategic Initiatives at Stellenbosch University and the supervisor of the present study, did a final review of the questionnaire, before it was submitted for proofreading by a language practitioner and ethical clearance by Stellenbosch University.

4.7.2. Pilot survey

After the amendments of the panel experts had been incorporated, the questionnaire was uploaded on SURveys.sun.ac.za, the online system utilised by Stellenbosch University. In collaboration with André Diederichs from FABASA, a pilot survey was conducted among the members of this association.

Saunders et al. (2009: 394) commented that the purpose of a pilot is to refine the questionnaire so that respondents will have no problem in answering the questions and that there will be no problems in recording the data.

For the purpose of the present study, the pilot study was primarily utilised to ensure that data was captured correctly and that respondents would not take too long to complete the survey. A total of 17 respondents completed the full questionnaires. Saunders et al. (2009) cited Fink (2003), stating that ten respondents is the minimum required for an academic student survey. These respondents all completed the survey in less than 15 minutes and data was captured appropriately through the online system. Subsequently, no changes were required or applied following the pilot survey.

4.7.3. Ethical clearance

Stellenbosch University's Research Ethics Policy (2018), which manages the ethical risks associated with research in the humanities, also applies to the Economic and Management Sciences Faculty and Stellenbosch University Business School. The Research Ethics Committee provides independent, competent, and timely reviews of the ethical risks related to research proposals, and can recommend measures aimed at avoiding or minimising these risks. The Research Ethics Committee is responsible for carrying out the review of proposed research before the

commencement of the research, and to ensure that there is regular monitoring and evaluation of the ethical risks related to ongoing studies that received a positive decision from the Research Ethics Committee.

In the case of the present study, the committee provided ethical clearance with the following stipulations (refer Appendix E):

- There must be a more explicit statement that the participation is entirely voluntary.
- The benefit of this study must be made clearer. It is not sufficient to state that it is for the researcher to gain a better understanding.
- It is recommended that you add the name and email address of the supervisors.

In order to fulfil the first stipulation, the following line was added to the email cover letter (refer to Appendix A): “The research obtained ethical clearance from the University of Stellenbosch Business School and the survey is entirely voluntary”. Furthermore, the survey’s online cover letter stated: “Participants have the right to withdraw from the survey”.

The second stipulation was answered by highlighting the relevance of and potential practical insights from the study:

My research about the impact of family influence on conflict and innovation in the South African wine industry could provide valuable practical insights in terms of the long-term sustainability of family-owned wineries. Innovation is important for the growth and sustainability of family businesses. A better understanding of conflict and innovation could provide businesses with relevant practical managerial insights in terms of managing conflict and innovation in the context of the South African wine industry, ultimately ensuring that family businesses remain innovative and sustainable.

Lastly, the name and email address of Professor Tobie de Coning were provided as requested through the third stipulation. With these stipulations met, the final survey was presented to Prof De Coning, who approved that the noted stipulations had been met.

4.8. DISTRIBUTION OF QUESTIONNAIRES

With response rates of email surveys generally trending downward (Rogelberg & Stanton, 2007), an innovative and well-thought approach aimed at enhancing response rates must be utilised in research. A respondent’s perceived importance of the survey’s topic may increase the survey response rate (Sheehan, 2001). A pre-notification emphasising why the survey is important was considered to increase potential respondents’ willingness to participate in the survey. The researcher decided against email pre-notifications, because of the fear of spam fatigue, while postal pre-notifications would not have been reliable due to post office strikes at that time.

The questionnaire was distributed by email to 485 private wineries. The 2015/16 South African Wine Industry Directory (SAWID) database (a publicly available resource) was used to obtain contact details of winery owners. This directory indicates the owners of every wine cellar in South Africa and is updated annually. The emails were directed at the CEO or the highest position in the business. If no names were available, the email was sent to a general email address. The email itself highlighted the importance of the study and confirmed that the research had received ethical clearance. The cover letter was in either Afrikaans or English, depending on the preferred language of the individual or business (refer to Section 4.6.2). In most cases this preference was determined through personal knowledge of the researcher. In cases where there was uncertainty about the preferred language, English was used.

The emails were sent manually, starting on 10 August 2015, with the final email sent on 13 August 2015. In cases where the email addresses were incorrect, or the recipient was not available, the researcher phoned the winery to determine the correct address. The deadline for completion was 30 August 2015. The week before the deadline a total of 30 randomly-selected wineries that had not yet answered, were telephonically phoned to remind them to complete the survey. Another three wineries contacted the researcher to discuss the study. In all three cases, the reason for making contact was to emphasise the decreasing number of family businesses in the wine industry and to offer their support for the study. In all three cases the researcher encouraged the callers to complete the survey and forward it to the rest of the top management team.

4.9. ASSESSING THE VALIDITY AND RELIABILITY OF MEASURES AND SCALES

In social sciences, multiple-indicator measures are preferred over single-indicator measures, because most phenomena of interest in this area have multiple facets that can only be represented by multiple indicators (Wepener, 2014). This section outlines the types and relevance of validity and reliability. This is followed by an overview of the methods used to assess the validity and reliability of the multi-item measures used in this study. Each multi-item scale used is then discussed.

Because of the inherent limitations of single-item measures, multiple-item measures are commonly used and combined as a scale. These measures are intended to comprise alternative indicators of a similar, underlying construct (Anderson & Gerbing, 1988). Multiple-indicator measures are considered to be more valid than single-indicator measures in social sciences, because most phenomena of interest in this area have multiple facets that can only be represented by multiple indicators. This would also apply to family-business behavioural aspects, such as family commitment, non-economic goals and conflict, as measured in the present study. A multi-item measurement scale is a measure, which combines the values of several items (also called indicator variables) into a composite measure, used to predict or gauge some underlying continuum, which can only be partially measured by any single item (Nie, Hull, Jenkins, Steinbrenner & Bent, 1975).

The present study did not develop any new scales to evaluate the relevant aspects that were measured, but instead adopted and in some cases adapted existing, suitable measures. Although Schrauf and Navarro (2005) advised that existing scales can be used or adapted, Saunders et al. (2009: 382), commented that existing scales can be used, providing that they:

- measure what the researcher is interested in;
- have been empirically tested and validated; and
- have been designed for a reasonably similar group of respondents.

The relevant scales that were utilised in the present study are discussed and evaluated according to the afore-mentioned criteria in Section 4.9.1. The multi-item scales had been validated as part of the original studies from which they were adopted and were then validated, based on the results of the present study.

4.9.1. Assessing reliability by using the Cronbach alpha coefficient

Reliability can be defined as the extent to which the individual indicators or items all measure the same uni-dimensional construct and the items are closely correlated (Cooper & Schindler, 2006; Hair et al., 2006; Weir, 2005). A study is deemed reliable if different researchers obtain similar results when a study is replicated with different research participants at a later stage (Jacoby, 1978; Mouton, 1996). For the present study, this is particularly relevant, noting that the multi-item scales were adopted from existing, previous scholarly work, using recognised and tested measures.

The Cronbach's coefficient alpha metric (α) (Cronbach, 1951) is a coefficient of internal consistency, which is commonly used to measure reliability (Cooper & Schindler, 2006). A scale is internally consistent if the items are highly intercorrelated. If the items of a scale have a strong relationship to their latent variable, they will also be strongly related. As plainly stated by Dunn, Seaker and Waller (1994: 161), all items "must be designed to measure precisely the same thing".

Cronbach's alpha is considered by Statistical Solutions Inc, (2006: 1-3) as the most common form of internal consistency reliability coefficient. The average correlation of a set of items measuring a construct, indicates the degree to which the items measure a single, uni-dimensional construct (Zinbarg, Yovel, Revelle & McDonald, 2006). Cronbach-alpha values are based on the average correlation of variables within specific sets of items measuring a construct. For example, a reliability coefficient of 0.85 indicates that 85 percent of the variance from the actual scores (obtained from the sample) is due to the variance of the true scores obtained (Adendorff, 2005: 365).

Coefficient alpha can range between 0.0 and 1.0. By convention, a lenient cut-off of 0.60 is considered by Statistical Solutions Inc. (2006: 1-3) as common in exploratory research. This is also supported by Adendorff (2005: 366) who stated that, "reliability coefficients lower than 0.60 are deemed questionable, 0.70 are acceptable, and coefficients higher than 0.80 are highly reliable". Nunnally (1978, cited in Hair et al., 2010) recommended an alpha of 0.7. This is widely accepted as the minimum acceptable standard to demonstrate internal consistency and was adopted as the

minimum cut-off for the present study. The more highly correlated the items of a scale are, the higher the coefficient alpha will be. The Cronbach alpha coefficient of every multi-item scale is discussed individually in Section 4.9.2.

4.9.2. Assessing the individual adopted scales

This section discusses the reliability and validity testing applied in the development of the original multi-item measures. This is followed by a comparative assessment and discussion of the Cronbach alphas of the present study. In cases where the original scale was altered or utilised differently, these changes are motivated and discussed. Since the present study adopted scales that were theoretically motivated, previously validated and in many cases, often used and tested, the potential removal of items was considered with caution. By assessing the reliability of each scale based on the results of the present study, the researcher investigates the possibility that aspects specific to this study (such as the translation into Afrikaans or the fact that it is a South African study) negatively affected the reliability of the respective scales. Raykov (2008), however, cautions that dispensing with a scale component to maximally increase coefficient alpha, can in fact entail loss in validity, a major aspect of behavioural measurement quality.

The Cronbach alpha coefficient of reliability ranges from 0 to 1 in providing an assessment of a measure's reliability. If all of the scale items are entirely independent from one another (i.e., are not correlated or share no covariance), then $\alpha = 0$; and, if all of the items have high covariances, then α will approach 1, as the number of items in the scale approaches infinity. Therefore, the higher the α coefficient, the more the items have shared covariance and probably measure the same underlying concept.

4.9.2.1. Family commitment

In the Chrisman et al. (2012: 91) study from which the family commitment scale was adopted, surveys were mailed to contact lists of two family business centres in the North-eastern USA. Although the present study is specific to the Western Cape wine industry, in terms of family business commitment, the group of respondents is similar to that of the Chrisman et al. (2012) study. The multi-item scale utilised to measure family commitment is presented in Table 4.2.

Table 4.2: The multi-item scale utilised to measure family commitment

Question 2.8	Family members feel loyal to the business
Question 2.9	The family and business have similar values
Question 2.10	Family members publicly support the business
Question 2.11	Family members are proud to be a part of the business
Question 2.12	Family members agree with the goals, plans and policies of the business
Question 2.13	Family members really care about the fate of the business
Question 2.14	Family members are willing to put in extra effort to help the business be successful

Source: Chrisman et al., 2012.

Chrisman et al. (2012) utilised the commitment scale to study family businesses across different sectors and data was collected from clients of the Small Business Development Centre (SBDC) programme via a mailed survey instrument. Their sample needed to consist of businesses that were of sufficient size to have the potential to experience and demonstrate significant managerial decision-making, as well as family involvement and influence. The analysis was subsequently limited to businesses with at least five full-time employees.

Their results suggest that this revised scale is acceptable for use in further statistical tests. The Cronbach's alpha for these items was 0.96, which was superior to that reported for the original 12-item scale, namely 0.93 (Klein et al., 2005: 328). The reduced scale also had substantial overlaps with, and a stronger alpha than, the 7-item scale independently validated by Holt et al. (2010).

A confirmatory factor analysis (CFA) was used to further explore the psychometric properties of this revised scale. The CFA resulted in a model with a non-significant chi-square. Each of the seven items produced strong squared multiple correlations. Each of the items yielded significant path loadings onto the construct. The overall fit of the model, as indicated by a goodness-of-fit index (GFI), was also above the recommended minimum.

For the present study, the Likert-type scales were adapted to a 5-point response format, to ensure uniformity with the rest of the questionnaire, anchored by "Strongly disagree" to "Strongly agree". Saunders et al. (2009) cautioned that amendments should only be made to existing scales where absolutely necessary, since significant changes may impact upon the validity of the scale. However, changing the format from a 7-point to a 5-point scale is unlikely to impact validity or results, since the questions remained unchanged.

Dawes (2008) suggested that neither 5-point and 7-point nor 10-point scales are less desirable from the viewpoint of obtaining data that will be used for regression analysis. "Therefore either 5-, 7- or 10-point scales are all comparable for analytical tools such as confirmatory factor analysis or structural equation models in this respect" (Dawes, 2008: 75).

Responding to Saunders et al.'s (2009) question of whether Chrisman et al.'s (2012) scale measures what the present researcher is interested in, several family influence measurements and scales of family influence were considered. These have been discussed in Section 2.4.2. Responding to the question by Saunders et al.'s (2009) whether the adopted scales were designed for reasonably similar respondents, Chrisman et al. (2012) collected data from clients of the SBDC programme in the USA. Although these businesses were not sector bound (as in the case of the present study) the scale was used to measure family commitment, not sector-specific measures.

In terms of the reliability assessment through Cronbach Alpha coefficients, the analysis summary of Table 4.3 shows that, overall, the internal consistency reliability (Cronbach's alpha) for the sum is estimated at 0.84. This figure was inferior to that reported for the original 12-item scale (0.93) by Klein et al. (2005: 328), as well as the adopted 7-item scale (0.96) by Chrisman et al. (2012: 279). However, all alpha values showed acceptable values, with $\alpha > 0.8$, reflecting high reliability.

Table 4.3: Family commitment reliability analysis

Summary for scale: Mean=33.15 Std.Dv.=2.73 Valid N:145 Cronbach alpha: 0.84				
Variable	Mean if deleted	Item total correlation	Squared multiple R	Alpha if deleted
Q2.8	28.36	0.58	0.42	0.82
Q2.9	28.54	0.65	0.44	0.81
Q2.10	28.33	0.51	0.53	0.83
Q2.11	28.32	0.76	0.70	0.80
Q2.12	28.62	0.65	0.45	0.81
Q2.13	28.35	0.54	0.31	0.82
Q2.14	28.39	0.55	0.34	0.82

In Table 4.3 the correlations between the items and the sums score (without the item) are shown in the column named 'Item total correlation'. This column reflects the correlation between a particular item and the sum of the rest of the items. This indicates how well a particular item fits with the rest of the items. In the output above, the best item appears to be Q2.11, with an item-total correlation of $r = 0.76$. When the item with the lowest item-total correlation is close to zero (<0.30), the removal of the item should be considered because it is not measuring the same thing as the rest of the items (Pallant, 2007). This was not the case for the family commitment scale in the present study.

The squared multiple R in the second-last column of Table 4.3 shows the predicted multiple correlation coefficient squared obtained by regressing the identified individual item on all the remaining items. The last column (Alpha if deleted) shows the resultant Cronbach's alpha value of the respective items. It estimates what the Cronbach's alpha would be if you removed a particular item. If the 'Alpha if deleted' figure is higher than the scale's current alpha, it means that the scale

would present higher reliability if that item is removed. This was not the case for any of the items of the family commitment scale and it can be concluded that the scale is reliable.

4.9.2.2. *Non-economic family goals*

The family-centred non-economic (FCNE) goal scale developed by Chrisman et al. (2012: 273) was consistent with non-economic goals tallied by Astrachan and Jaskiewicz (2008), Westhead and Howorth (2007) and Zellweger and Astrachan (2008). The multi-item scale used to measure non-economic family goals is presented in Table 4.4.

Table 4.4: The multi-item scale utilised to measure non-economic family goals

Question 3.5	Family harmony is an important goal when making business decisions
Question 3.6	The social status of the family is an important factor when making family business decisions
Question 3.7	The business is closely linked to the identity of my family

Source: Chrisman et al., 2012.

In the case of the Chrisman et al. (2012) study, the dependent variable, non-economic family goals, consisted of three items measured on a 5-point Likert scale, which is in line with the other scales used in this study. For the study by Chrisman et al. (2012), CFA was used to examine underlying psychometric properties of the constructs. Each item produced squared multiple correlations above 0.40 and significant loadings onto the construct. These results, along with the Cronbach's alpha (>0.7), suggested that the construct validity of this scale was deemed sufficient for the present study's statistical tests.

Table 4.5: Reliability analysis for the multi-item non-economic family goals scale

Summary for scale: Mean=11.76 Std.Dv.=2.42 Valid N:145 Cronbach alpha: 0.62				
Variable	Mean if deleted	Item total correlation	Squared multiple R	Alpha if deleted
Q3.5	7.57	0.44	0.24	0.50
Q3.6	8.39	0.52	0.29	0.36
Q3.7	7.56	0.33	0.12	0.64

The present study's reliability analysis of non-economic goals (refer Table 4.5), however, reflected a high deviation between individual measures. The standard deviation of the present study was also higher than that of the Chrisman et al. (2012) study (1.13). The Cronbach alpha of 0.62 reflects low internal consistency, but this is still acceptable for exploratory studies, such as the present study. The significant variation in the 'Alpha if deleted' column also suggested differences between items. The non-economic goal scale's result should therefore be viewed with caution if used as one construct and the separate items were subsequently also investigated individually in the present

study. Deleting item 3.7 would increase the scale's Cronbach alpha slightly to 0.64. Since this scale already comprises only three items, this was not considered.

Because the items used to measure non-economic family goals (family harmony, social status and family identity) are diverse, it was deemed necessary to specifically assess individual goals. The high variance could serve as an indication that non-economic family goals are conceptually diverse and should not necessarily be evaluated as one, homogenous construct. Acknowledging the heterogeneity of family businesses (Chua et al., 2012; Kim & Gao, 2013), the present study adopted the view of Astrachan et al. (2002) that various dimensions of family influence should be considered independently. The same approach was accordingly adopted in terms of non-economic family goals.

Furthermore, as discussed in Section 2.3, family identity and social status are particularly pertinent in the wine industry and warrant specific assessment. Using single-item measures, instead of multi-item constructs for the individual non-economic family goals (family harmony, social status and family identity) is viewed as a limitation, which warrants further examination in future studies. For the present study, individual non-economic family goals were evaluated separately in the correlation and moderation analyses (Section 6.2.7).

4.9.2.3. Additional non-economic goals

Over and above the three non-economic family goals that are featured in the Chrisman et al. (2012) scale, two non-economic goals were adopted from literature: Community contribution and job creation. Community contribution as a non-economic goal was adopted from Niehm et al. (2008), which established that family businesses were able to give and receive community support and that family business support of the community depended on commitment to the community.

Job creation for in family business for the next generation is commonly highlighted in literature (including Andersson et al., 2002; Chrisman et al., 2004; Chua et al., 2003). Both these measures were adopted from family business studies, which were not specifically wine industry studies.

Table 4.6: The multi-item utilised to measure additional non-economic goals

Question 3.8	It is important that the business makes a meaningful contribution to the community
Question 3.9	The business needs to provide job opportunities for the next generation

Table 4.7: Reliability analysis for the additional non-economic goals

Summary for scale: Mean=8.52 Std.Dv.=1.37 Valid N:145 Cronbach alpha: 0.40			
Variable	Mean if deleted	Item total correlation	Squared multiple R
Q3.8	3.95	0.28	0.08
Q3.9	4.57	0.28	0.08

These additional non-economic goal items yielded an alpha value of 0.40 (refer to Table 4.7), which suggests that, as in the case of the other non-economic family goals, non-economic goals should rather be viewed as individual items and not as a multi-item construct. Although community contribution and job creation both relate to socio-economic goals and are relevant in the wine industry (Section 2.6.3.), they were assessed separately. This was confirmed by the validity and reliability assessment.

4.9.2.4. Innovation

A scale utilised by Che-Ha et al. (2014) in a study of 1 500 Malaysian (family and non-family) businesses was adopted to measure innovation. In order to minimise measurement error and to improve questionnaire content and readability, Che-Ha et al. (2014) pre-tested the questionnaire using several academics and managing directors.

The Che-Ha et al. (2014) study used composite reliabilities as indicators of the internal consistency. All measures of internal consistency were above 0.8, demonstrating high reliability of the measures (Hulland, 1999). Furthermore, the square root of the average variance extracted (AVE) compared to correlations of the latent variables were all higher, establishing adequate discriminant validity. Refer to Table 4.8 for the multi-item scales utilised to measure the different dimensions of innovation.

Table 4.8: The multi-item scale utilised to measure innovation

	Managerial innovation
Question 4.1	Management constantly seeks to develop new ideas
Question 4.2	Our business invests in applied research and development
Question 4.3	Innovative ideas are rewarded in our business
Question 4.4	People are encouraged to perceive innovation as an opportunity
Question 4.5	Management rewards individuals for innovative ideas
	Process innovation
Question 4.6	We constantly use technology to enhance our efficiency
Question 4.7	We regularly invest to update our plant and equipment
Question 4.8	We constantly benchmark to world class standards
Question 4.9	Work practices are continuously reviewed to enhance efficiency
Question 4.10	We train our people in emerging industry technology
	Product innovation
Question 4.11	Our new products/services have caused significant changes in the industry
Question 4.12	We are prepared to introduce a totally new product/service even though it is risky
Question 4.13	We constantly modify our products/services to better serve our customers
Question 4.14	We prefer to be the first in the market with new products/services

Source: Che-Ha et al., 2014.

The reliability analyses of the innovation scales used in the present study are presented in Table 4.9, Table 4.10 and Table 4.11. In all three cases the Cronbach alphas presented in the table summary (0.87, 0.84 and 0.76), are higher than 0.7, suggesting acceptable reliability. This is also reflected in high total item correlation for all three scales.

Lastly, low variation in the 'Alpha if deleted' columns indicate sufficient reliability for all items. The 'Alpha if deleted' for most individual measures is lower than the multi-item scales' Cronbach alpha, indicating that the individual items positively contribute to the reliability of each scale. In the case of Q4.2. the 'Alpha if deleted' column indicates that the Cronbach alpha would remain unchanged if deleted. The item was, however, retained, based on the preference for a scale that had been validated and had been used in other studies.

Table 4.9: Reliability analysis of managerial innovation

Summary for scale: Mean=20.38 Std.Dv.=3.72 Valid N:145 Cronbach alpha: 0.87				
Variable	Mean if deleted	Item total correlation	Squared multiple R	Alpha if deleted
Q4.1	15.91	0.61	0.49	0.86
Q4.2	16.62	0.59	0.40	0.87
Q4.3	16.39	0.76	0.68	0.83
Q4.4	16.12	0.83	0.72	0.81
Q4.5	16.47	0.74	0.68	0.83

Table 4.10: Reliability analysis of process innovation

Summary for scale: Mean=19.9 Std.Dv.=3.57 Valid N:14 Cronbach alpha: 0.84				
Variable	Mean if deleted	Item total correlation	Squared multiple R	Alpha if deleted
Q4.6	16.04	0.66	0.46	0.80
Q4.7	15.95	0.65	0.44	0.80
Q4.8	15.86	0.55	0.32	0.83
Q4.9	15.80	0.67	0.46	0.80
Q4.10	16.15	0.67	0.47	0.80

Table 4.11: Reliability analysis of product innovation

Summary for scale: Mean=15.25 Std.Dv.=3.14 Valid N:145 Cronbach alpha: 0.76				
Variable	Mean if deleted	Item total correlation	Squared multiple R	Alpha if deleted
Q4.11	11.69	0.57	0.33	0.69
Q4.12	11.48	0.54	0.30	0.71
Q4.13	11.06	0.56	0.33	0.70
Q4.14	11.51	0.55	0.32	0.70

The reliability of a scale comprising managerial, process and product innovation was also evaluated, in order to use a single innovation construct in the family influence PLS-SEM (refer to Section 3.7). This was done by using all the innovation items in the reliability analysis, as a combined innovation scale. The results of the reliability analysis are presented in Table 4.12.

Table 4.12: Reliability analysis of innovation

Summary for scale: Mean=11.88 Std.Dv.=1.94 Valid N:145 Cronbach alpha: 0.83				
Variable	Mean if deleted	Item total correlation	Squared multiple R	Alpha if deleted
Managerial innovation	7.80	0.68	0.48	0.78
Process innovation	7.89	0.74	0.55	0.72
Product innovation	8.07	0.65	0.44	0.80

The Cronbach alpha coefficient of the combined scale for innovation (0.83) is indicative of high reliability (refer to Table 4.12), while high item total correlations and low variation in the 'Alpha if Deleted' column support the reliability of the combined scale.

4.9.2.5. Conflict

Refer to Section 2.9.1 for a discussion about conflict types. The present study adopted a conflict scale by Pearson et al. (2002) for task conflict and relationship conflict. These authors applied the best practices in scale development, as outlined by Hinkin (1995), to assess the construct and predictive validity of this scale. Using CFA to examine the construct validity of Jehn's (1995) intragroup conflict scale, Pearson et al. (2002) suggested an alternative 6-item model. This model was tested in six samples to offer additional validity and support. Furthermore, they tested the 6-item model in a series of theoretically derived hypotheses to ascertain the predictive validity of the model, again using multiple samples. The model successfully predicted the hypothesised outcomes.

Significant for the present study, five of the six samples that were used to validate Pearson et al.'s (2002) 6-item scale, were top management teams, as in the case of the present study. Furthermore, one of the samples comprised management teams of 192 "mid-sized" food processing businesses, which have many similarities to the sample of the present study, as discussed in Section 4.3. The multi-item scales used to measure relationship conflict and task conflict are presented in Table 4.13.

Table 4.13: The multi-item scale utilised to measure conflict

Relationship conflict	
Question 5.1	There is a lot of anger among family members
Question 5.2	There is personal friction among family members during decisions
Question 5.3	There is a lot of tension in the family during decisions
Task conflict	
Question 5.4	There are many disagreements about different ideas
Question 5.5	The family has to work through many differences about the content of decisions
Question 5.6	There are many differences of opinion among the family members

Source: Pearson et al., 2002.

Since Pearson et al.'s (2002) scale was not specifically designed for family businesses, the wording of some questions was adapted for family businesses with "group" being replaced by "family". Pearson (2015) approved this suggestion and commented that this scale is indeed also suitable for family business studies.

The reliability analyses of the respective conflict scales are presented in Table 4.14 and Table 4.15. Cronbach alpha values in the summary boxes (0.89 and 0.87 respectively) exceeding 0.8 indicate high internal consistency. This is also supported by high item total correlations for both scales, as well as low variance in the 'Alpha if deleted' columns. These results are indicative of sufficient reliability for the task conflict and relationship conflict scales.

Table 4.14: Relationship conflict reliability analysis

Summary for scale: Mean=6.13 Std.Dv.=3.04 Valid N:145 Cronbach alpha: 0.89				
Variable	Mean if deleted	Item total correlation	Squared multiple R	Alpha if deleted
Q5.1	4.21	0.79	0.62	0.85
Q5.2	4.02	0.80	0.64	0.84
Q5.3	4.03	0.78	0.61	0.85

Table 4.15: Task conflict reliability analysis

Summary for scale: Mean=7.43 Std.Dv.=3.27 Valid N:145 Cronbach alpha: 0.87				
Variable	Mean if deleted	Item total correlation	Squared multiple R	Alpha if deleted
Q5.4	5.12	0.74	0.58	0.82
Q5.5	5.11	0.80	0.64	0.77
Q5.6	4.63	0.70	0.51	0.85

4.9.2.6. Composite reliability

Composite reliability is a structural equation modelling (SEM) based approach of assessing reliability. Composite reliability permits an estimation of the reliability index and coefficient of a composite test for congeneric measures. Because the present study also utilised a partial least square structural equation model (PLS-SEM), composite reliability was also used as an assessment of reliability.

Composite reliability should be 0.7 or higher, or 0.6 or higher for exploratory research (Bagozzi & Yi, 1988). The composite reliability of the relevant multi-item indicators is presented in Figure 4.1. The red line shows the threshold of 0.7, while the dark blue bars represent the variation of the composite reliability. The composite reliability values of all the multi-item indicators were well above the suggested acceptable threshold, as presented in Figure 4.1. The red line indicates the minimum acceptable composite reliability and the bars represent the composite reliability of the individual scales of the present study.

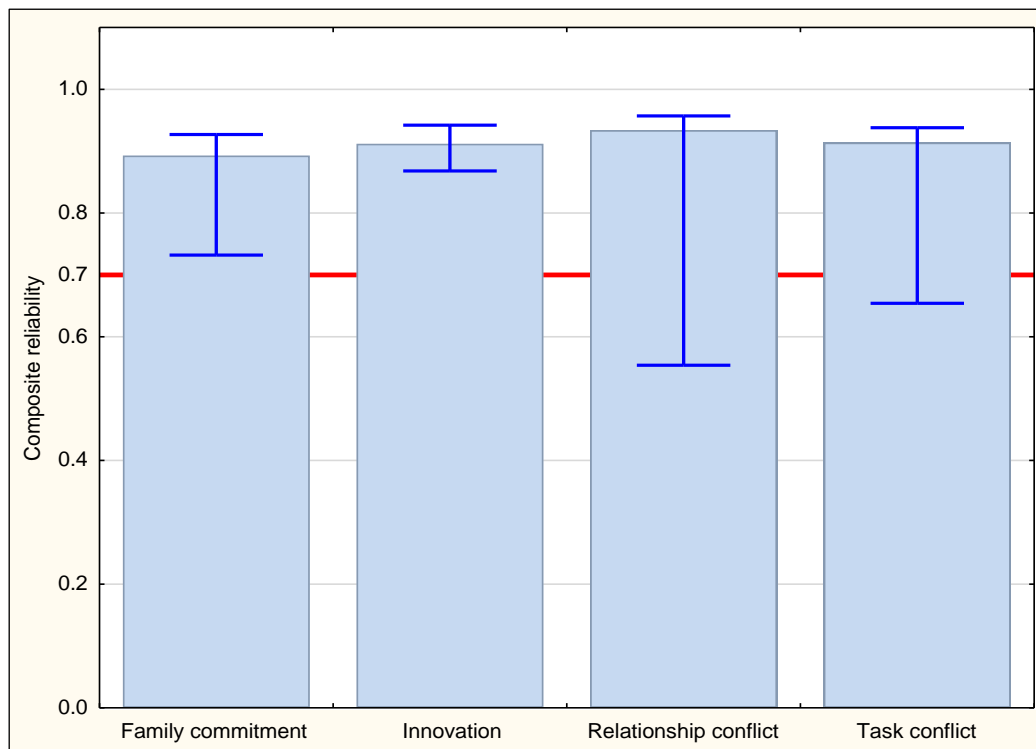
**Figure 4.1: Composite reliability of individual scales**

Table 4.16: Composite reliability results

Scale	Average variance extracted
Family commitment	0.873
Innovation	0.909
Relationship conflict	0.894
Task conflict	0.883

4.9.2.7. Conclusion of reliability analyses of measuring instruments

Sufficient evidence was provided to prove the reliability of most of the adopted scales for the present study, with Cronbach alpha coefficients exceeding the minimum requirement of 0.7 (Hair, Black, Babin, Anderson & Tatham, 2006). In most cases, Cronbach alpha coefficients exceeded 0.8, which reflects high reliability. The exception was the non-economic family goals scales discussed in Section 4.9.2.2.

Based on the reliability analyses, the non-economic family goals should rather be evaluated individually. The proposed non-economic goals scale was evaluated as individual items and was not included in the structural equation model. Alternative models were considered for the PLS-SEM, which included a model that also evaluated individual non-economic goals (refer to Section 3.7). A low sample size was, however, deemed a limitation in terms of the number of items that can be included in the PLS-SEM. As presented in Figure 4.2, the amended model for the PLS-SEM specifically considered the family commitment construct as a moderator of conflict and innovation.

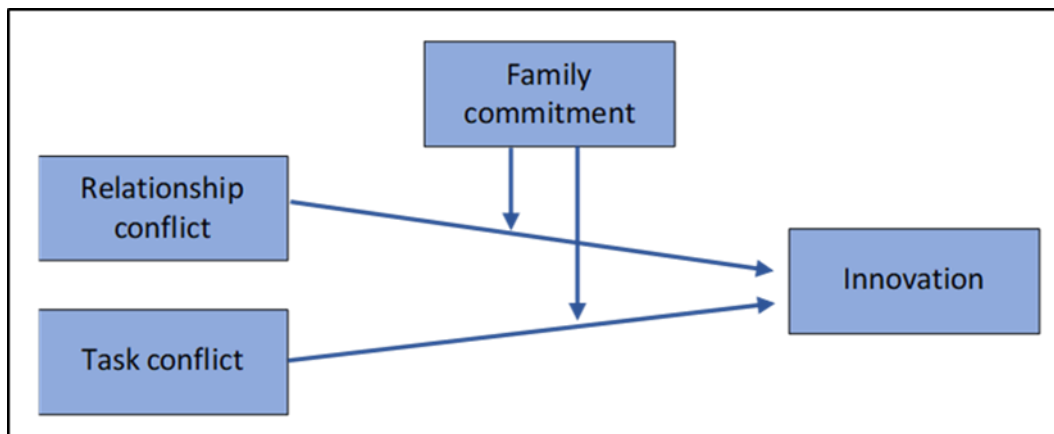


Figure 4.2: Proposed model to evaluate family commitment

In order to further scrutinise the validity and reliability of the measuring instruments and proposed PLS-SEM, a CFA was done. This is discussed in Section 4.9.4. Validity is discussed in the next section.

4.9.3. Validity

Testing for construct validity is essential in business research (Smith, 2005). Validity refers to the extent to which the findings of a study accurately reflect the concept being studied (Babbie & Mouton, 2001; Collis & Hussey, 2009). The validity of a research measure is subsequently the extent to which it measures what it is supposed to measure (Blumberg, Cooper & Schindler, 2005; Leedy & Ormrod, 2005). In terms of multi-item measures, constructs are valid when the set of items (variables that are examined) measure the theoretical latent construct (dimension) they are designed to measure (Hair et al., 2010).

The following steps were taken to assess the validity of the respective multi-item scales, over and above the overview reliability and validity testing which was applied when developing the original scales that were used in the present study.

4.9.3.1. Face validity

Face validity relates to the degree to which test respondents view the content of a test and its items as relevant to the context in which the test is being administered (Holden, 2010). Simply put, face validity refers to the extent to which an instrument appears to be measuring what it is supposed to be measuring (Trochim, 2006; Zikmund, 2003) and represents a very basic measure of validity. Face validity is established when the measured items are conceptually consistent with a construct definition (Hair et al., 2010). In terms of the present study, the original scales that were adopted were required to be suitable for the present study by theoretically measuring the constructs that were examined. This was established prior to testing of the results of the present study.

4.9.3.2. Convergent validity

The items of a specific construct should converge or share a high proportion of variance in common, known as convergent validity. Average variance extracted (AVE) was assessed to estimate convergent validity. High loadings on a factor are an indication that they converge on the latent factor. All items should be statistically significant (0.5 or higher, or ideally, 0.7 or higher) (Bagozzi & Yi, 1988). The square of a standardised factor loading represents how much variation in an item is explained by the latent factor and is termed the variance extracted of the item.

To assess convergent validity, an AVE should be determined and evaluated for each latent construct in a measurement model (Hair et al., 2010: 709). An AVE of less than 0.5 indicates that, on average, more error remains in the items than the variance explained by the latent factor structure imposed on the measure. To confirm convergent validity, each multi-item latent variable's AVE was evaluated. It was found that all of the AVE values were greater than or equal to (in the case of family commitment) the acceptable threshold of 0.5 (Bagozzi & Yi, 1988). The AVE results are presented in Figure 4.3 and Table 4.17.

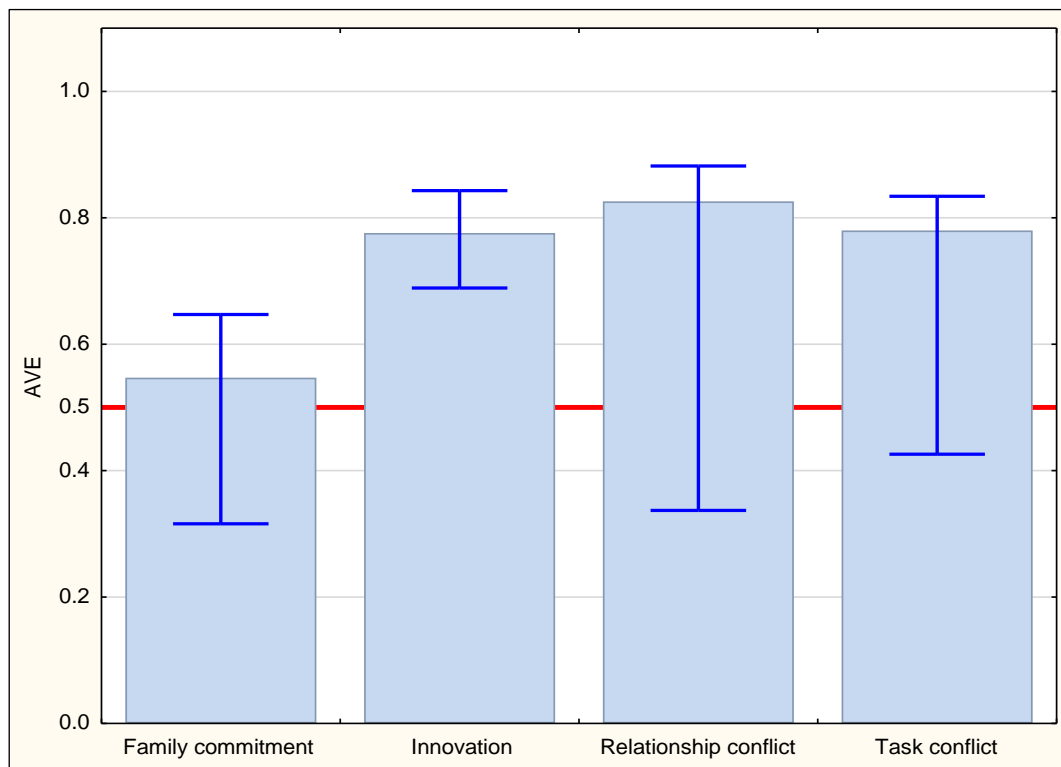


Figure 4.3: Average variance extracted of the individual scales

Table 4.17: Convergent validity results

Scale	Average variance extracted
Family culture	0.531
Innovation	0.771
Relationship conflict	0.776
Task conflict	0.744

4.9.3.3. Discriminant validity

Discriminant validity measures the extent to which a construct (latent variable) is truly distinct from other constructs and the extent to which all items are indicators of just one construct (Farrell, 2010) and, therefore, whether the instrument sufficiently discriminates between the dimensions assessed. The discriminant validity assessment has the goal to ensure that a reflective construct has the strongest relationships with its own indicators (in comparison with any other construct) in the PLS path model (Hair, Hult, Ringle & Sarstedt, 2014).

Discriminant validity assessment has become a generally-accepted prerequisite for analysing relationships between latent variables for variance-based structural equation modelling, such as partial least squares. Henseler, Ringle and Sarstedt (2015) proposed the heterotrait-monotrait ratio of correlations (HTMT) to assess discriminant validity. HTMT values close to 1 indicates a lack of discriminant validity. Gold, Malhotra and Segars (2001) and Teo, Srivastava and Jiang (2008) proposed a value of 0.90 as the maximum threshold for discriminant validity. The discriminant validity

results are presented in Table 4.18 and indicate that each item presents sufficient discriminant validity.

Table 4.18: Discriminant validity results

	Heterotrait-Monotrait ratio			
	Sample	2.5%	97.5%	Discriminant
Innovation -> Family commitment	0.29	0.141	0.502	Yes
Relationship conflict -> Family commitment	0.493	0.283	0.672	Yes
Relationship conflict -> Innovation	0.18	0.058	0.432	Yes
Task conflict -> Family commitment	0.409	0.239	0.587	Yes
Task conflict -> Innovation	0.198	0.077	0.453	Yes
Task conflict -> Relationship conflict	0.880	0.842	0.972	Yes

4.9.4. Confirmatory factor analysis

Confirmatory factor analysis (CFA) assesses the construct validity of the measurement model by evaluating the extent to which the measured items reflect the theoretical dimensions of the instrument that these items are designed to measure (Hair et al., 2010: 708). In the case of CFA in structural equation modelling, the proposed model is imposed on the data. CFA therefore provides a rigorous specification of the measurement model.

The small sample size in this study was deemed a potential limitation in terms of CFA. The widely-accepted minimum sample sizes for CFA as proposed by Hair et al. (2010), proposed that samples sizes of up to 100 are adequate for models containing five or fewer constructs, each with more than three items (observed variables), and with high item communalities (0.6 or higher). They also proposed that a sample size of 150 is sufficient for models with seven or fewer constructs, modest communalities (0.5), and no under-identified constructs.

In the case of the present study, the sample size is 118 businesses, with four constructs (relationship conflict, task conflict, family commitment and innovation), comprising at least three items each. A confirmatory factor analysis was subsequently completed. The CFA results indicate acceptable composite reliabilities ($CR > 0.6$) (refer to Section 4.9.2.6) and Average Variance Extracted ($AVE > 0.5$, refer to Section 4.9.4), with modest to high communalities (refer to Appendix F for the CFA results).

The following section discusses some of the indices to assess model fit of the CFA. Reporting a variety of indices is recommended (Crowley & Fan, 1997), because different indices reflect a different aspect of model fit.

4.9.4.1. Chi-square

Model chi-square is a traditional measure for evaluating overall model fit (Hooper, Coughlan & Mullen, 2008). This measure assesses the magnitude of discrepancy between the sample and fitted covariances matrices (Hu & Bentler, 1999: 2). The model chi-square, however, has limitations as it assumes multi-variate normality and deviations may result in rejection of the model. Furthermore, the chi-square statistic is sensitive to sample size: Chi-square is regarded to be a reasonable measure of fit for models with between 75 and 200 cases, but is not recommended for models beyond 400, because with large samples, the chi-square is almost always statistically significant (Kenny, 2014). Chi-square is therefore a relevant measure for the present study.

According to Bagozzi and Foxall (1996), it is not recommended to rely on the chi-square alone as a measure of fit, because it is dependent on the size of the sample. Where small samples are used, the chi-square statistic lacks power and consequently may not discriminate between good fitting models and poor fitting models (Kenny & McCoach, 2003).

Another limitation of the chi-square index is that it does not directly indicate the degree of fit like other indices that are normed from 0 to 1. For the above reasons, alternative measures of fit have been developed to guide assessments of model fit.

Wheaton, Muthen, Alwin and Summers's (1977) relative/normed chi-square (χ^2/df) minimises the impact of sample size on the model chi-square. The (χ^2/df) ratio has a minimum of 0 (perfect fit) and no theoretical maximum; smaller values of the ratio indicate a better fit. Kenny (2014) argued that the chi-square to df ratio was an old measure of fit and that there was no universally agreed upon standard as to what the values should be to indicate a good and a bad fitting model (Hayduk, 1987).

Although there is no consensus regarding an acceptable ratio for this statistic, recommendations range from as high as 5.0 (Wheaton et al., 1977) to as low as 2.0 (Tabachnick & Fidell, 2007). Based on the smaller sample size of the present study, the relative chi-square was assessed ($\chi^2/df = 1.33$) and suggested a very good model fit.

4.9.4.2. Root mean square error of approximation

The root mean square error of approximation (RMSEA) test statistic is a measure of goodness-of-fit in structural equation models (Chen, Curran, Bollen, Kirby & Paxton, 2008). RMSEA has been one of the most reported fit indices when analysing models (Diamantopoulos & Siguaw, 2000; Hair et al., 2010) and is increasingly favoured over chi-squared in business research (Martínez-López, Gázquez-Abad & Sousa, 2013).

In terms of structural equation modelling (SEM), the null hypothesis is that there is a perfect fit between the data and the model. If the H0 hypothesis is rejected, the RMSEA can be considered to evaluate close fit. A RMSEA value of ≤ 0.05 is indicative of close (good) fit, and a value of between

0.05 and 0.08 is regarded as reasonable fit (Browne & Cudeck, 1992; Diamantopoulos & Siguaw, 2000; Lomax & Schumacker, 2010).

More recently, a cut-off value close to 0.06 (Hu & Bentler, 1999) or a stringent upper limit of 0.07 (Steiger, 2007) has been regarded as acceptable. Hair et al. (2010: 667) considered a RMSEA > 0.08 as a poor fit and argued that the RMSEA statistic should be considered in conjunction with other measures, instead of adopting an absolute cut-off. This is supported by Chen et al. (2008), who suggested that a 0.05 cut-off value of the RMSEA rejects too many valid models in small sample sizes ($n \leq 100$).

An advantage of the RMSEA statistic is its ability for a confidence interval to be calculated around its value (MacCallum, Browne & Sugawara, 1996). This is possible due to the distribution values of the statistic, which subsequently allow for the null hypothesis to be tested more accurately. The lower value of the 90 percent confidence interval is very near 0 (not more than 0.05), and the upper value is not very large (<0.08) (Kenny, 2014). The present study presented an RMSEA of 0.053, at a 90 percent confidence interval of (0.024; 0.076). Based on generally accepted guidelines outlined above, this indicates an acceptable model fit for the CFA of the present study.

4.9.4.3. Goodness-of-fit index

The goodness-of-fit (GFI) statistic calculates the proportion of variance that is accounted for by the estimated population covariance (Tabachnick & Fidell, 2007). By looking at the variances and covariances accounted for by the model, it shows how closely the model comes to replicating the observed covariance matrix (Diamantopoulos & Siguaw, 2000). This statistic ranges from 0 to 1 with larger samples increasing its value. Lomax & Schumacker (2010) suggested that values close to 0.90 or 0.95 reflect a good fit. However, given the sensitivity of this index, it has become less popular in recent years and some authors have even recommended that this index should not be used (Sharma, Mukherjee, Kumar & Dillion, 2005). The GFI of the present study was 0.88, which is deemed acceptable based on the smaller sample size.

4.9.4.4. Conclusion: reliability and validity testing

This section assessed and discussed the validity and reliability of the multi-item measures and PLS-SEM. In order to sufficiently assess validity, a CFA was done and, based on the suggestion of Crowley and Fan (1997), several indices were assessed and discussed to assess model fit.

The small sample size was deemed a potential limitation, since small sample size tends to decrease statistical power (Aiken, West & Reno, 1991). However, considering the limitations of a small population of a study limited to only the South African wine industry, the CFA and subsequent indicators provided sufficient evidence that the multi-item scales were valid and reliable in terms of proceeding with the proposed PLS-SEM. The validity and relevance of the CFA were also assessed by Professor Kidd (2017) of the Centre for Statistical Consultation and Professor Theron (2017) of

the Faculty of Industrial Psychology at Stellenbosch University. While the small sample size was noted as a potential limitation, the analysis was deemed relevant.

4.10. STATISTICAL TECHNIQUES APPLIED

This section discusses the statistical techniques applied in the assessment of the data obtained from the research survey. Analysis entailed the assessment of the proposed hypotheses; the relationship between the measured constructs and in some cases, single-item measures, as well as the moderating effect of family influence variables on the relationship between conflict and innovation. These analyses comprised analysis of variance (ANOVA) and, specifically the analysis of correlation between variables, expressed through Pearson correlation coefficients. Over and above the aforementioned techniques, PLS-SEM was applied to model the correlations tested in the proposed sub-hypotheses.

4.10.1. Analysis of variance

Analysis of variance (ANOVA) is a common method for studying sampled-data relationships, developed by statistician, Ronald Fisher, in 1918 (Statistics Solutions, 2016). The method enables the difference between two or more sample means to be analysed, achieved by sub-dividing the total sum of squares. A one-way ANOVA tests for significant differences between class means by analysing the variances. One-way ANOVA tests differences in a single interval dependent variable among groups formed by the categories of a single categorical independent variable (Turner & Thayer, 2001). It tests if the groups formed by the categories of the independent variable seem similar in terms of means. If the groups seem different, then it is concluded that the independent variable has an effect on the dependent variable. If the group means do not differ significantly, then it is inferred that the independent variable(s) do not have an effect on the dependent variable. The ANOVA p-value indicates the probability of getting a mean difference between the groups as high as what is observed by chance. The lower the p-value, the more significant the difference between the groups. For the purpose of the present study, p-values lower than 0.05 are deemed statistically significant.

The two-way ANOVA compares the mean differences between groups that have been split on two independent variables (called factors). The primary purpose of a two-way ANOVA is to understand whether there is an interaction between the two independent variables on the dependent variable (Turner & Thayer, 2001). For the present study, mixed-model repeated measures ANOVA-testing was utilised to make provision for more multiple responses per business, with the business as the unit of analysis. While single observations are deemed independent from other responses, mixed-model repeated measures ANOVA takes into account that for multiple responses representing one entity, this is not the case (Kidd, 2017).

4.10.2. Pearson's correlation coefficient

Pearson correlation is considered to be the measure of strength of a relationship between two variables. It is denoted by the symbol 'r' and is a descriptive statistic for examining the linear relationship between two measures or variables. According to Mason and Lind (1990: 495), the strength of the relationship is indicated by the correlation coefficient (r), but is measured by the coefficient of determination: R^2 .

The significance of the relationship is expressed in probability levels. By means of an example: a significance level of $p = 0.05$ indicates how unlikely a given correlation coefficient, r, will occur given no relationship in the population. The smaller the p-level, the more significant the relationship, but the larger the correlation coefficient, the stronger the relationship. The range of the correlation is from -1.00 to +1.00. The weakest relationship is 0.00 which indicates that the two variables do not co-vary at all. A +1.00 correlation indicates that the variables co-vary in a perfectly positive or direct manner, and a -1.00 correlation indicates that the variables co-vary in a perfectly negative or indirect manner (Campbell & Swinscow, 2011). Table 4.19 provides details about how the strength of the tested relationships was interpreted.

Table 4.19: Interpretation of Pearson Correlation Coefficients

R	Interpretation of correlation
0.20 – 0.39	Weak
0.40 – 0.59	Moderate
0.60 – 0.79	Strong
0.80 – 1.0	Very strong

Source: Campbell & Swinscow, 2011; Evans, 1996.

4.10.3. Assessing dimensions of family influence as moderators

A moderator is defined as a “variable that affects the direction and/or strength of a relationship between an independent or predictor variable and a dependent or criterion variable” (Baron & Kenny, 1986: 1174). In the case of the present study, the different measured components of family influence were assessed as a moderator of the relationship between conflict and innovation. Determining whether a variable is a moderator of the relation between two other variables requires statistically testing an interaction term. When the interaction term contains two categorical variables, analysis of variance (ANOVA) or multiple regression may be used. When the interaction term contains one or more continuous variables, multiple regression is used (Fritz & Arthur, 2017).

A moderation model tests whether the prediction of a dependent variable, Y, from an independent variable, X, differs across levels of a third variable, Z (refer to Figure 4.4, as well as Figure 3.1 for the variables assessed in the present study).

A straightforward test of a linear relationship between X and Y would be given by the regression equation below.

Let

$$Y = \alpha + \beta_1 X + \beta_2 Z \quad (1)$$

$$Y = \alpha + \beta_1 X + \beta_2 Z + \beta_3 XZ \quad (2)$$

In this equation, if the interaction between the independent variable and moderator variable ($\beta_3 XZ$) is not statistically significant, then Z is not a moderator variable, but just an independent variable. If the interaction between the independent variable and moderator variable is statistically significant, then Z will be a moderator variable, and thus moderation is supported.

Moderator variables affect the strength and/or direction of the relation between a predictor and an outcome: enhancing, reducing, or changing the influence of the predictor (Fairchild & MacKinnon, 2009).

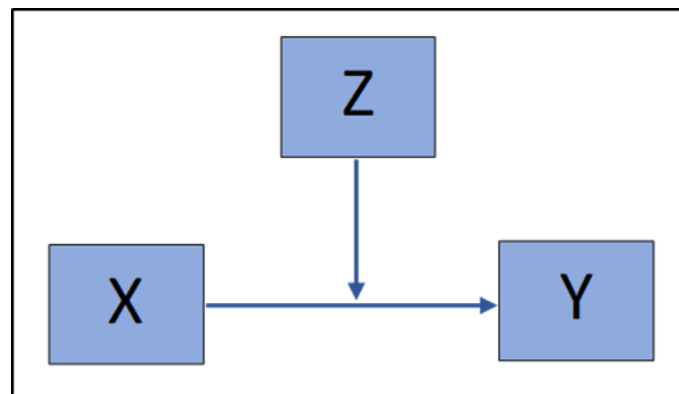


Figure 4.4: Basic moderator model

In order to determine the moderating effect of the relevant family influence constructs on the relationship between conflict and innovation, regression analyses were done. The variables used as components of interaction terms were centred to minimise the problem of multi-collinearity between interaction terms and their components (Aiken et al., 1991). The regression coefficient for the interaction, provides an estimate of the moderation effect (Fairchild & MacKinnon, 2009). If the interaction coefficient is statistically different from zero, there is significant moderation of the X-Y relation in the data.

Interaction effects can be interpreted by looking at the sign of the interaction coefficient. If the interaction coefficient is negative, then the relationship between the independent variable and the dependent variable will become more “negative” as the level of the moderator increases. Vice versa for positive interaction coefficients (Field, Miles & Field, 2012). The coefficient of determination (R^2) is the proportion of the variance in the dependent variable that is predictable from the independent variable (Nagelkerke, 1991). A R^2 value of zero would therefore mean that there is no correlation between the variables. For the purpose of analysing the effect of a moderator, R^2 without the

interaction of the moderator is compared to R^2 with the interaction of the moderator. The R^2 increase due to interaction is an important parameter in a moderation analysis, because it gives the effect of the moderation (statistically the interaction) beyond the main effects. For the present study, the p-values of the moderator analyses refer to the change in R^2 . The R^2 without the interaction of the moderator was compared to R^2 with the interaction of the moderator. The p-values tested if R^2 increased significantly when the interaction was added.

Plotting interaction effects aids in the interpretation of moderation to show how the slope of Y on X is dependent on the value of the moderator variable (Dawson, 2014; Fairchild & MacKinnon, 2009). This is usually done by calculating predicted values of Y under different conditions, such as high and low values of the Z (Dawson, 2014). To illustrate the changes in relationships graphically, graphs were generated for predicted values from the interaction regressions. The values plotted on the graphs are all standardised. The line on the graph corresponding to moderator “low”, was done by predicting the dependent variable from the independent variable with the level of the moderator fixed at -1.5 (standardised score). The line on the graph corresponding to moderator “high”, was done by predicting the dependent variable from the independent variable with the level of the moderator fixed at +1.5 (standardised score). This follows the method applied by family business studies such as Ling and Kellermanns (2010) and Hoelscher (2002). These graphs are used for illustrative purposes; therefore, the specific beta coefficients or p-values were not reported for the moderated graphs. The aim was not to do any hypothesis testing with these graphs, but to illustrate the results of the moderator analysis which was presented for each hypothesis in tables. Refer to Section 6.2 for the assessment of moderators in the present study.

4.10.4. Structural equation modelling

Structural equation modelling (SEM) is a general statistical modelling technique, which is widely used in behavioural sciences and can be viewed as a combination of factor analysis and regression or path analysis (Hox & Bechger, 1998). The relationships between theoretical constructs are represented by regression or path coefficients between the factors. SEM is a multivariate data analysis method, which involves the application of statistical methods that simultaneously analyse multiple variables, representing measurements associated with individuals, companies, events and so forth (Hair, Hult et al., 2014). For the purpose of this study, these measurements are therefore the innovation, family influence and conflict constructs associated with family businesses.

According to Lomax and Schumacker (2010: 2), various theoretical models can be tested in SEM that hypothesise how sets of variables define constructs and how these constructs are related to each other. Structural equation models are often visualised by a graphical path diagram (Hox & Berchger, 1998). Path models are diagrams used to visually display the variable relationships that are examined through SEM (Hair, Hult et al., 2014). Relationships in path models are shown in path models as arrows, that indicate causal relationships between constructs, which are represented in path models as circles or ovals (Hair, Hult, et al., 2014). Theory is important when developing

structure models and comprises a set of systematically-related hypotheses that have been developed, following a scientific method that can be used to explain or predict outcomes (Hair, Hult et al., 2014).

There are two general approaches to estimate the relationships in SEM: covariance-based structural equation modelling (CB-SEM) and partial least square structural equation modelling (PLS-SEM). The estimation procedure for CB-SEM is maximum likelihood estimation (Hair et al., 2010). CB-SEM estimates model parameters so that the discrepancy between the estimated and sample covariance matrices is minimised (Hair, Hult et al., 2014). While CB-SEM aims to confirm theories by determining how well a model can estimate a covariance matrix for the sample data, PLS-SEM operates similarly to a multiple regression analysis (Hair, Hult et al., 2014). Originally developed by Wold (1974), PLS-SEM is based on an iterative approach that maximises the explained variance of constructs (Fornell & Bookstein, 1982).

Bird et al. (2002) stated that variance-based partial least squares structural equation modelling's (PLS-SEM) ability to handle more advanced model elements, such as moderator variables, is likely to make PLS-SEM the method of choice for family business research. According to Hair, Hult et al. (2014), PLS-SEM is the preferred method when then the research objective is theory development and explanation of variance. These authors also stated, that in situations where theory is less developed, researchers should consider the use of PLS-SEM, instead of CB-SEM. Furthermore, in contrast to CB-SEM, PLS-SEM enables researchers to more flexibly specify the relationships between items and constructs, whether measurement is reflective or formative (Hair, Hult et al., 2014). PLS-SEM works efficiently with small sample sizes and makes practically no assumptions about the underlying data (refer to Section 4.10.4.2). Based on the mentioned advantages of PLS-SEM, this approach was followed in the present study.

If the unobservable variable can be considered as giving "rise to something observed", reflective indicators should be used (Haenlein & Kaplan, 2004: 289). Formative indicators are appropriate if constructs "are perceived as explanatory combinations of indicators" (Fornell & Bookstein, 1982: 442). Or as put by Hair, Sarstedt, Hopkins and Kuppelwieser (2014): "The central difference between reflective and formative constructs is that formative measures represent instances in which the indicators cause the construct, whereas reflective indicators are caused by the construct". Sarstedt, Ringle, Smith, Reams and Hair (2014), however, emphasised that constructs are not inherently reflective or formative in nature. "Rather, the type of measurement depends on the construct conceptualization, the aim of the research and the role of the construct in the model". For the present study, all the latent variables were reflective measures, which require that reliability analyses are done. Refer to Section 4.9.1 for the reliability analyses.

The present study particularly required a method to investigate the potential effect of moderating variables on the relationship between more than two dependent variables and independent variables, which may result in dependent variables influencing other dependent variables, as outlined

by Baron and Kenny (1986). A moderator can change the strength of a relationship between two constructs in a model (Hair, Hult et al., 2014).

Refer to Figure 4.5 for an example of a model that presents moderating effects that can be determined, following the method outlined by Hair, Hult, et al. (2014). The following formula expresses the structural model, with the moderator effect as depicted in Figure 4.5:

$$Y_2 = (p_1 + p_3 * M) * Y_1 + p_2 * M$$

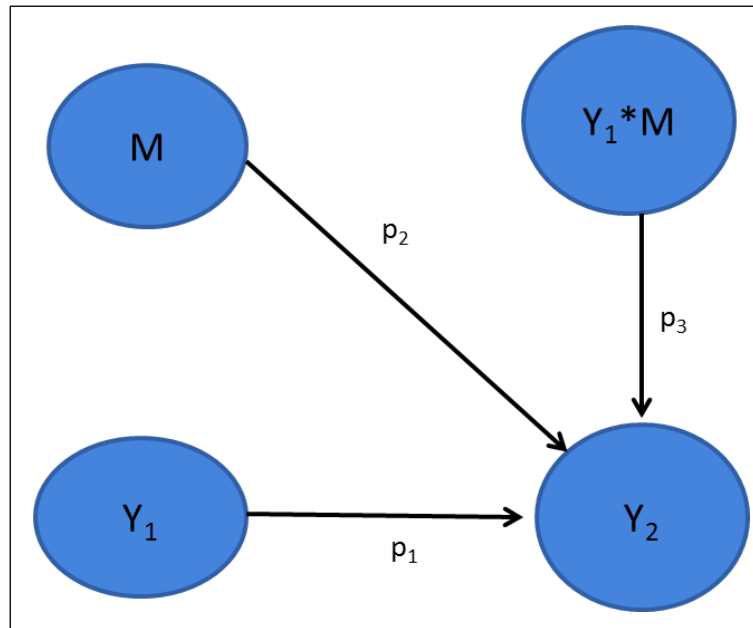


Figure 4.5: Interaction term in moderation for PLS-SEM

This formula illustrates that the influence of Y_1 on Y_2 depends on both the strength of the simple effect p_1 , as well as the product of p_3 and M (the moderating variable). The formula can therefore be rewritten as below to illustrate how a moderator can be integrated in the model:

$$Y_2 = p_1 * Y_1 + p_2 * M + p_3 * (Y_1 * M)$$

This equation illustrates that including a moderator effect requires the specification of the simple effect of the latent variable ($p_1 * Y_1$), as well as the simple effect of the moderator variable ($p_2 * M$) and the product term ($p_3 * (Y_1 * M)$), which is also known as the interaction term. The coefficient p_3 therefore expresses how the simple effect p_1 changes when the moderator variable (M) is increased or decreased.

This technique outlined by Hair, Hult et al., (2014) was also followed in the present study and the SEM-PLS model (refer to Figure 6.7) includes two interaction terms as additional latent variables, representing the interaction effects of the moderator variables. The following discusses PLS-SEM in family business research.

4.10.4.1. PLS-SEM in family business research

Hair, Sarstedt et al. (2014: 107) emphasised that PLS-SEM had been receiving considerable attention from disciplines like marketing, strategic management and operational management, crediting PLS-SEM's ability to handle unusual data characteristics (including non-normal data) and highly complex models. PLS-SEM has also received increasing attention in family business studies, although the uptake (particularly in the case of PLS-SEM) was slower than in other research fields, as suggested by Sarstedt et al. (2014).

Family business research is, however, gaining momentum in terms of sophistication, with Bird et al. (2002: 346) illustrating that statistical modelling and analysis are receiving more attention. Astrachan, Patel and Wanzenried (2014: 118) remarked that PLS-SEM is particularly suitable for family business research, where researchers often experience data collection constraints and struggle with low response rates. PLS-SEM can achieve higher levels of statistical power with smaller samples (Reinartz, Haenlein & Henseler, 2009). In the case of CB-SEM, larger samples are required than for PLS-SEM, because relationships between all variables have to be assessed, while the PLS-SEM is fragmented into different smaller components, as dictated by the constructs in the model. With sample size as a potential limitation for the present study, PLS-SEM was deemed the most suitable means of analysis.

The following authors compiled examples of reflective and formative constructs from family business studies:

- Reflective constructs:
 - Family business's reputation (Binz et al., 2013);
 - Image (Zellweger, Kellermanns, Eddleston & Memili, 2012);
 - Organisational identity (Zellweger, Eddleston & Kellermanns, 2010).
- Formative constructs:
 - Entrepreneurial orientation (Casillas, Moreno & Barbero, 2010);
 - Family ownership (Chua et al., 1999).

The following section discusses assumptions necessary for SEM.

4.10.4.2. Assumptions required for partial least squares structural equation modelling

Data collected for social science research often fails to follow a multivariate normal distribution. PLS-SEM is less stringent than CB-SEM when working with non-normal data because the PLS algorithm transforms non-normal data in accordance with the central limit theorem (Hair et al., 2014). PLS-SEM is a non-parametric method and all hypotheses tested were based on bootstrapping. For analysis of variance (ANOVA), normal probability plots were inspected and found to indicate reasonable conformance to the normality assumptions of the residuals. Levene's test was performed to test for homogeneity of variance and in cases where this assumption was not met, Games-Howell tests were conducted. Furthermore, non-parametric Mann-Whitney and Kruskal-Wallis tests were

also conducted where appropriate. The different approaches generally gave similar results, which meant that any possible deviations from assumptions did not have major influences on the findings.

Sample size was discussed and noted as a potential limitation in Section 4.5.1. The present study largely met the minimum sample size requirements for structural equation modelling suggested by Hair et al. (2010). Sample size can affect parameter estimates, model fit, and statistical power (Shah and Goldstein, 2006). However, unlike CB-SEM, PLS-SEM can be utilized with much smaller sample sizes, even when models are highly complex. In these situations, PLS-SEM generally achieves higher levels of statistical power and demonstrates much better convergence behaviour than CB-SEM (Henseler, 2010; Hair et al., 2014). Furthermore, based on a relatively high response rate and the limitation of an industry-specific family business study, the sample size is argued to be satisfactory.

4.11. SUMMARY

This research methodology chapter scrutinised the research approach, techniques applied and, most importantly, the validity and reliability of the constructs and measures used. This investigation provided a solid foundation for the following chapters, which discuss and analyse the results obtained from the primary research of the present study.

Chapter 3 provided an overview of the development of the research model, while Chapter 4 confirmed the validity and reliability of the proposed model, by means of confirmatory factor analysis (CFA) and the assessment of the Cronbach alphas of each multi-item measure. The design and development of the questionnaire and the way that it was distributed was also discussed.

CHAPTER 5

RESULTS: DESCRIPTIVE STATISTICS

5.1. INTRODUCTION

Chapters 3 and 4 illustrated the methods used to develop the research instrument, as well as a framework to present and analyse the data. This chapter, accordingly, defines and describes the research data collected by that instrument, the questionnaire, and reports the descriptive statistics. The chapter starts with an overview of the respondents representing family businesses. This is followed by the descriptive statistics of the participating businesses. An overview of the results obtained through the research instrument is subsequently presented. The descriptive statistics are presented in line with the sequence of the research framework presented in Section 3.3.

5.2. RESPONDENT OVERVIEW

Based on the criteria for participation (refer to Section 4.4), respondents were members of the top management team of the family business. Descriptive statistics of the respondents included whether the participants were family members or not and their position in the management team. A total of 77.24 percent ($n = 112$) of responses were from family members, with non-family members, who are at least at top management level, representing the remainder ($n = 33$). Responses to each multi-item scale provided by family members did not significantly differ from those provided by non-family members and both respondent types were included in further analysis (refer to Appendix D).

The units of analysis for this study were family businesses and not individual respondents. This approach follows the example of family business studies, including Cucculelli et al. (2016), Kellermanns and Eddleston (2007), Zahra et al. (2008). Based on this approach, information collected focused on the family business and information about the individual responses was limited and based on criteria to participate: Family ownership and top management team members. The tested hypotheses also related to the business and not the specific respondents. A total of 145 valid and useable surveys were completed, representing 118 businesses.

The study strived to obtain multiple respondents from each business. However, only 21 businesses were represented by more than one respondent. For the remaining 97 businesses, only one response was received. The researcher received direct confirmation from three businesses that the survey was collectively completed to reflect the view of the management team. In line with the studies by Kellermanns et al. (2012: 92) and Kraiczy et al. (2014: 334), low multiple responses were not deemed an insurmountable limitation for the present study. Zahra et al. (2008) argued that the top management teams were most likely to be well aware of the business's organisational culture and strategy-related issues since these respondents are considered reliable key informants. Following best practice of James, Demaree, and Wolf (1984) in terms of multiple respondents' interrater reliability between multiple responses versus single responses, analysis of variance (ANOVA) tests

were done for all the multi-item scales (Appendix C). In all cases, at a five percent significance level, there were no significant differences between multiple responses and single responses. Both single and multiple responses were therefore included in further analysis.

5.3. DESCRIPTIVE STATISTICS OF BUSINESSES

The following section discusses the general descriptive statistics of the units of analysis: wine industry family businesses. A total of 118 businesses are represented in this study, which represents a response rate of 24.3 percent in terms of the total wine industry family businesses (refer to Section 4.5.1). Information such as the age and size of the business is presented to ensure that a representative sample is presented, while these aspects are also relevant in terms of the organisational behaviour and measured items that form part of the hypotheses of this study. In the case of the Family Essence results, the results of individual respondents are reported in this section. The results pertaining to the hypotheses outlined in Chapter 3 are presented in Chapter 6.

The following section reports on the characteristics of the businesses represented by the responses from the survey. The results follow the same order as the questions in the survey. Results presented refer to businesses and not individual responses.

5.3.1. Business size

Number of employees was used to establish the size of the businesses (Question 2.3.). This was deemed a more suitable measurement than turnover, because the latter could be viewed as sensitive information that could deter potential participants. The mean in terms of number of employees was 20, which represents medium-sized wine businesses. Most of the businesses (72%; $n = 85$) employed fewer than 50 people. Larger businesses, employing between 50 and 200 people, accounted for more than 20 percent ($n = 27$) of participating businesses, while the remainder represented wineries that can be described as very large private wineries ($n = 6$), employing between 200 and 450 people.

Although complete, updated information about the number of employees at family wineries is not available (refer to Section 4.5), the distribution of business size, based on employees, suggests that the sample is diverse and representative. Further aspects that can be regarded as descriptive statistics of the businesses, such as business age, are discussed as dimensions of family influence in the following section.

5.4. FAMILY INFLUENCE

The next section of the questionnaire specifically related to components of family influence (refer to Section 2.5). The dimensions of family influence are presented in the same groups and order outlined in the research framework, presented in Section 3.3: family power, family experience, generational overlap and family essence.

5.4.1. Family power

The number of family members on the management team of the family business (Question 2.4) was measured as a component of family power. The criteria for participation (refer to Section 4.4) stipulated that at least two family members must be involved in the family business. The results accordingly indicate businesses with two, three, four or more than four family members involved in the family business. Figure 5.1 presents the number of businesses in terms of involved family members.

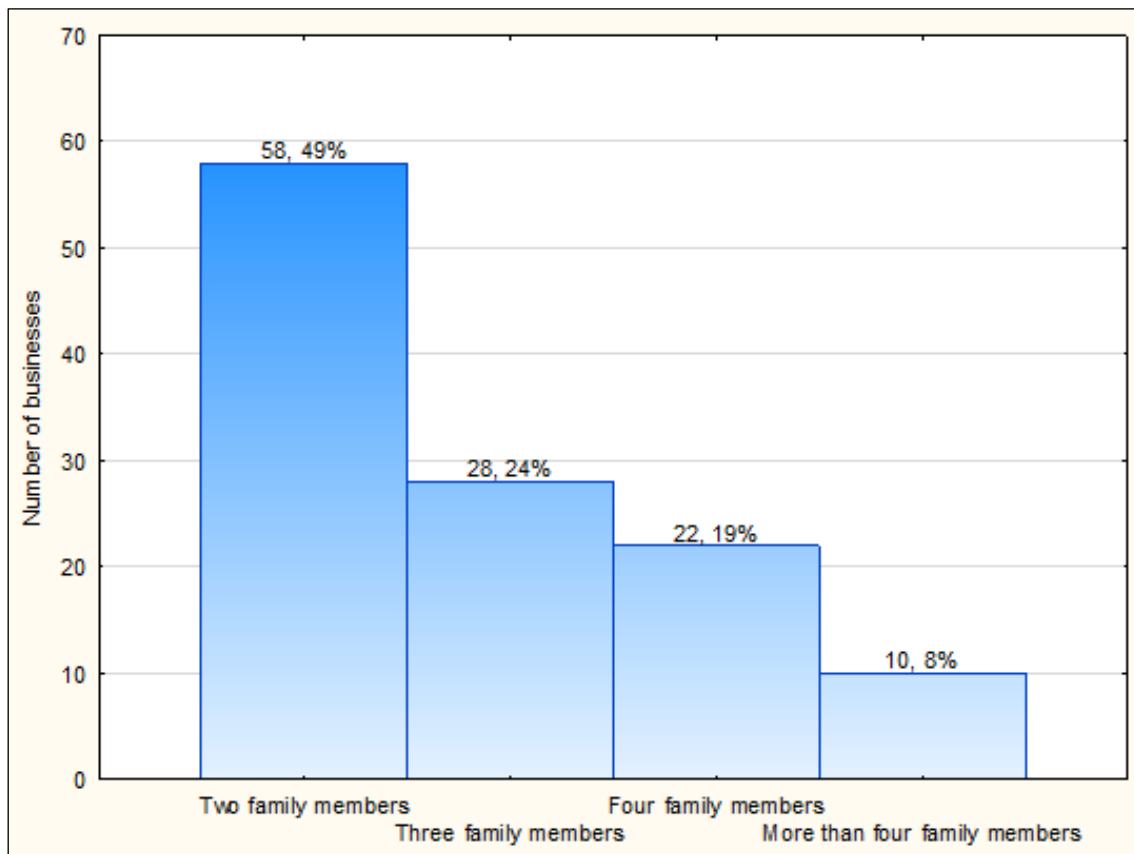


Figure 5.1: Number of family members involved in the management of the business

The largest proportion of the businesses that qualified for the study (49%; $n = 58$) had two family members actively involved in the business. As presented in Figure 5.1, businesses with three (24%; $n = 28$), four (19%; $n = 22$) or more than four (8%; $n = 10$) active family members were also well represented.

5.4.2. Family experience

The family experience dimension was measured by the age of the business (Question 2.2.), as well as the generation currently managing the business (Question 2.5.). The age of the business was measured in number of years. These results are presented in Figure 5.2. The majority (76%) of the businesses that participated in this study were less than 50 years old. This could be ascribed to the increase in the number of private or family-owned wine businesses, following the deregulation of the wine industry in 1997, as well as the growth in the wine industry that followed after the end of *Apartheid* in 1994 (refer to Section 2.2).

More than 25 percent of the participating businesses were between the age of 50 and 150 years, with the oldest business being 333 years old (Figure 5.2). In terms of potential outliers, the oldest business had been in existence for 333 years, which is significantly older than the median of 24 years. For PLS-SEM, the analysis was not parametric and skewness due to outliers was not a concern.

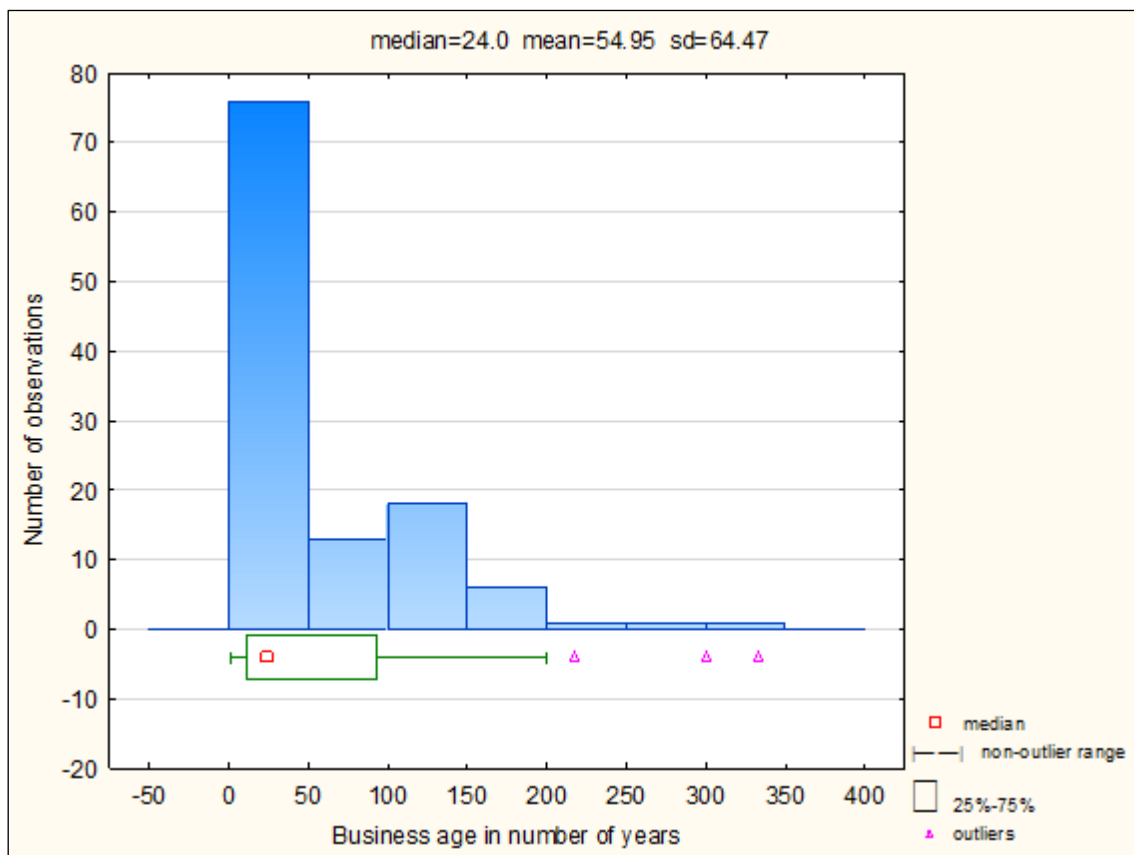


Figure 5.2: Age of family businesses

Figure 5.3. presents the number of businesses in terms of the managing generation. The number of businesses that are managed by the first (42%; n = 49), second (24%; n = 28), third (13%; n = 15) and fourth or later generation (22%; n=26) are presented by the respective columns. The corresponding percentages for each of these categories are also provided.

While the SAWID does not indicate the managing generation of family wine businesses, significant representation in each category suggests that the study presents a relevant representation in terms of the managing generation. These results also correspond with the other measure of family experience, namely age of business.

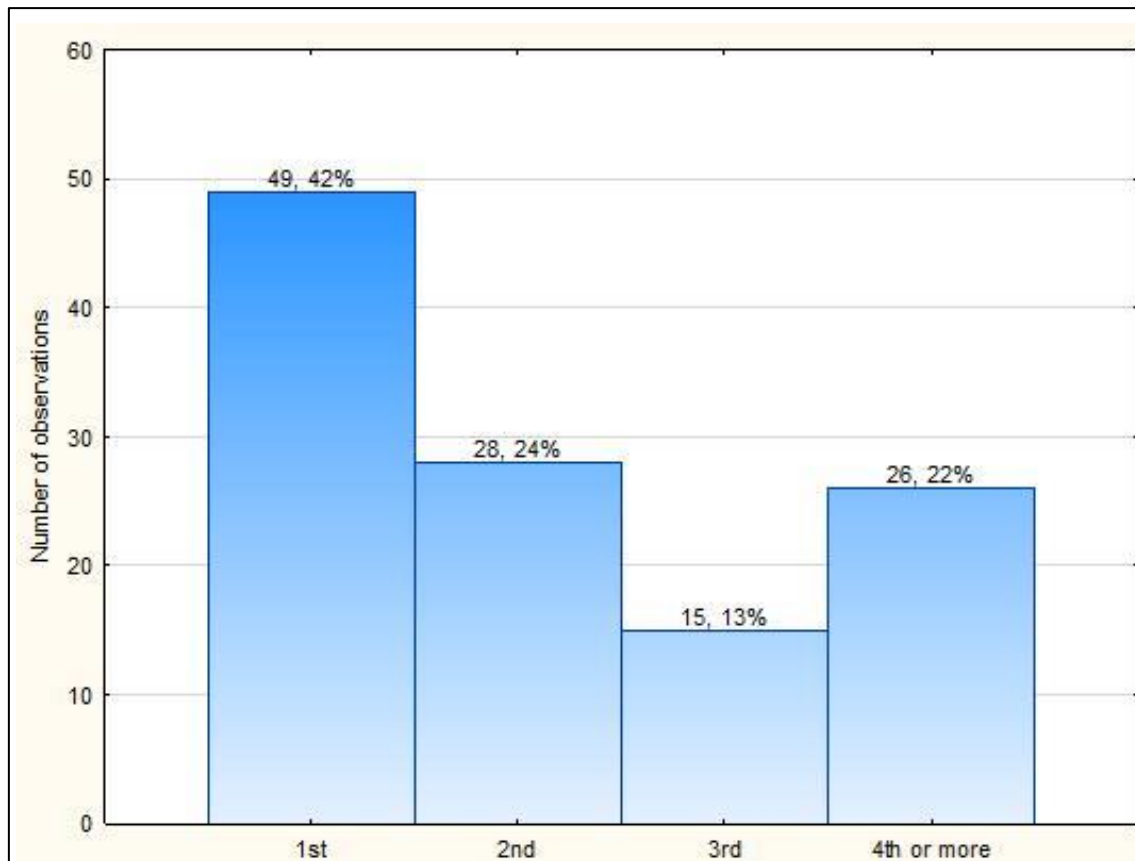


Figure 5.3: Managing generation

5.4.3. Generational overlap

The generational overlap dimension comprised generations involved in management, the number of generations that share the ownership of the family business, as well as goal alignment between generations.

5.4.3.1. Managerial concentration

This section discusses the results of Question 2.6. of the survey. Managerial concentration refers to the number of generations involved in the management of the business. The options provided were “one generation”, “two generations” and “more than two generations”. The highest number of businesses were managed by only one generation (57%; n = 67). This includes the first-generation

businesses ($n = 49$). This means that 18 of the businesses that were second or third-generation businesses, were managed by only one generation. Figure 5.4 shows 49 (42%) businesses indicated that two generations share the task of managing the business, while only two businesses were managed by more than two generations. Figure 5.4 presents the number of businesses according to concentration of management between generations. The number of businesses managed by one, two and more than two generations is presented by the respective columns. The corresponding percentages of each category are also provided.

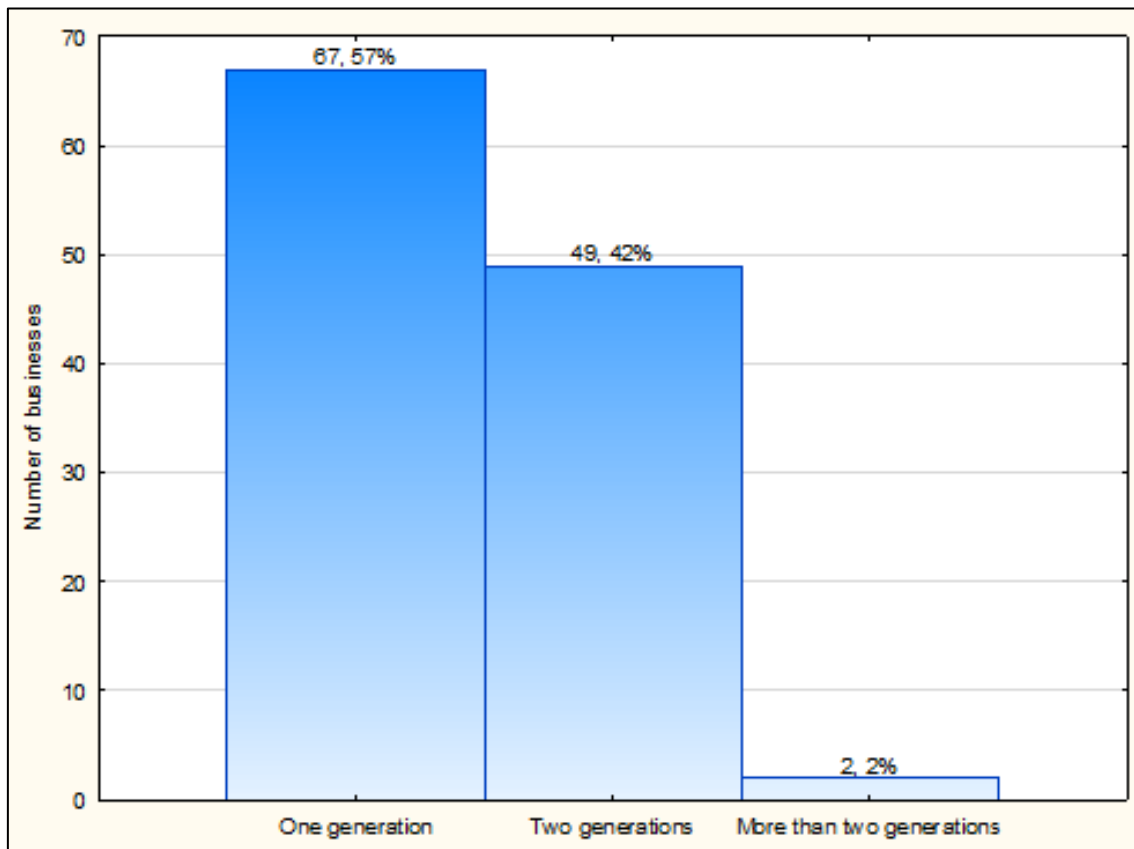


Figure 5.4: Managerial concentration

5.4.3.2. Ownership dispersion

This section discusses the results of Question 2.7 of the survey. As in the case of managerial concentration, a large proportion (63%; $n = 74$) of the participants indicated that ownership resorts under one generation. This can partly be ascribed to the fact that 42 percent of the businesses were first generation family businesses. Ownership dispersion was more concentrated than management. Figure 5.5 presents the number of businesses in terms of ownership dispersion. The number of businesses where ownership resorts under one (63%; $n = 74$), two (35%; $n = 41$) and two or more generations (3%; $n = 3$) is presented. The corresponding percentages are also provided.

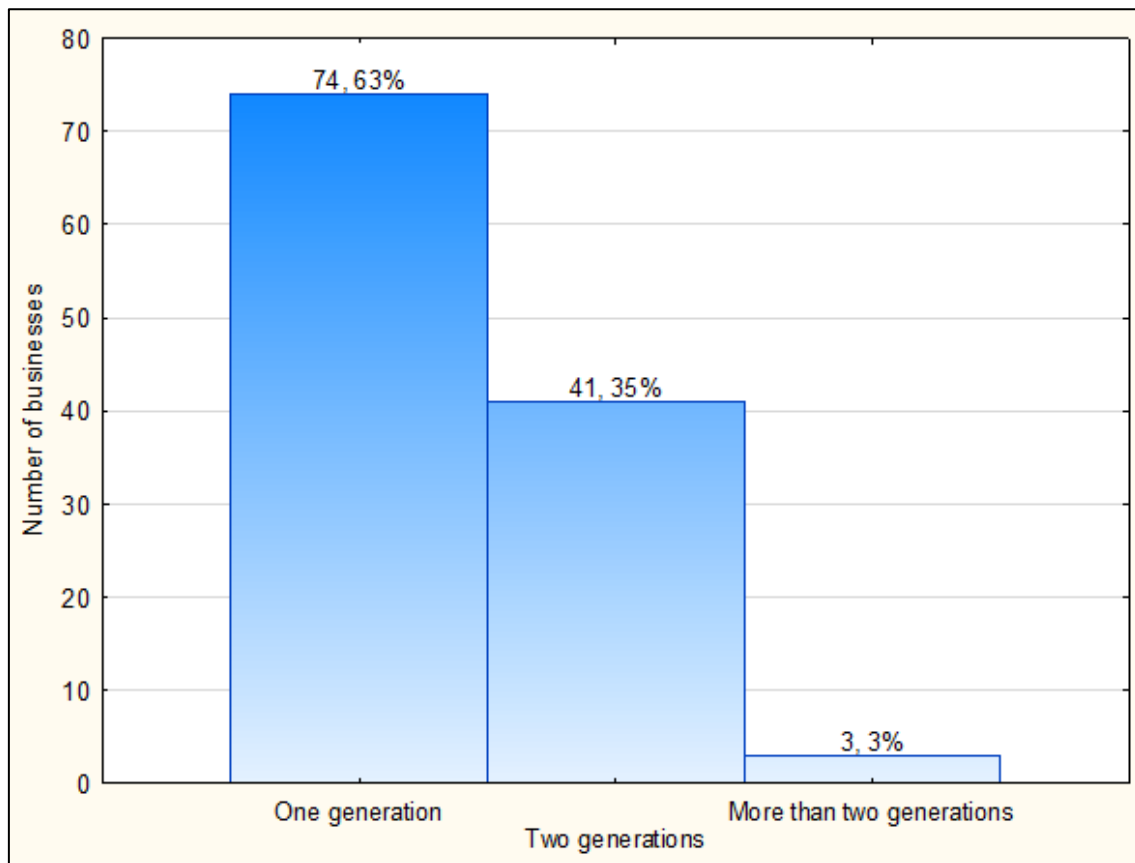


Figure 5.5: Ownership dispersion between generations

5.4.3.3. Goal alignment between generations

This section discusses the results of Question 3.1. Question 3.1 relates to whether the goals of the different generations involved in the business are similar. The results are presented in Table 5.1.

Table 5.1: Generational alignment results

		Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean
		1		2		3		4		5		
		n	%	N	%	N	%	n	%	n	%	
Q3.1	The goals of the different generations involved in the business are similar	1	0.91	2	1.83	13	11.92	43	39.44	50	45.87	4.28
Q3.2	The future vision for the family business is the same among the different generations	0	0.00	6	5.22	19	16.52	43	37.39	47	40.86	4.14

The mean for Question 3.1 was 4.28, which was only slightly more than the mean of Question 3.2 (4.14). More respondents indicated that they feel neutral about the alignment of the future vision (16.53%) between generations than in the case of goals (11.92%).

5.4.4. Family essence

This section discusses the descriptive results of the family essence dimensions, as presented in the research framework (Section 3.3.). These dimensions are intention to transfer the family business to the next generation, family commitment and non-economic family goals. The results in this section represent the individual responses of respondents (n = 145).

5.4.4.1. Intention of generational transfer

This section presents the results of Question 2.1, a single-item measure which asked respondents if the family intends to transfer the business to the next generation. The majority of the respondents (91%) indicated that they intend to transfer the business to the next generation. This is a pertinent result, indicating a very high desire to maintain family business control and is significantly higher than the result of the Chrisman et al. (2012) study, in which only 53 percent of sampled small family businesses in retail, services and manufacturing indicated that they intended to transfer the business to the next generation. Similarly, the percentage of businesses that intend to transfer the business to the next generation was higher than the results obtained in a South African family business report by PricewaterhouseCoopers (2014: 13), which indicated that 17 percent of the businesses intended to sell or float the business. The South African sample of the PricewaterhouseCoopers study, however, showed a higher intention of generational succession than the global sample, of which 30 percent of the participating family businesses indicated that they intend to sell or float the

business. It can therefore be concluded that there is a particularly high intention to transfer the family business to the next generation in the South African wine industry.

5.4.4.2. Family commitment

This section discusses the results of the family commitment scale (Questions 2.8 to 2.14; refer to Section 3.2.3.2). The results of the individual items of the family commitment construct are presented in Table 5.2 below. The results of the present study signify high family commitment in the South African wine industry. The mean of the scale (4.74) is higher than the result obtained in the Chrisman et al. (2012) study, which had a mean value of 4.13 in a study of small American businesses. The mean was also higher than that (4.17) of the food processing industry study by Zahra et al. (2008). Similarly, the family commitment results are generally higher than that of the Family Commitment Culture measure used by Segaro et al. (2014) in a study of small and medium manufacturing enterprises in Finland.

All the means of the present study's individual items were higher than 4.5. The lowest individual mean (4.53) from the present study was Question 2.12. (Family members agree with the goals, plans and policies of the business). The study by Segaro et al. (2014) had a mean of 4.2 for the same individual measure. The present study's highest individual measure (4.83) was Question 2.11 (Family members are proud to be part of the business).

It can therefore be concluded that family businesses in the South African wine industry present very high levels of family commitment. It could be argued that this explains the high percentage of businesses that indicated that they intend to transfer the businesses to the next generation. The high level of family commitment can also be ascribed to the strong passion and link between the product and family, people, history and experiences in the wine industry (Gallucci & D'Amato, 2013: 186). The particularly high mean value for being proud of being associated with the family business can most likely be ascribed to the strong link to the product.

Table 5.2: Family commitment scale results

		Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean
		1		2		3		4		5		
		n	%	n	%	n	%	n	%	n	%	
		Family commitment										4.74
Q2.8	Family members feel loyal to the business	0	0.00	1	0.69	4	2.76	19	13.10	121	83.45	4.79
Q2.9	The family and business have similar values	1	0.69	2	1.38	10	6.90	27	18.62	105	72.41	4.61
Q2.10	Family members publicly support the business	0	0.00	0	0.00	1	0.69	24	16.55	120	82.76	4.82
Q2.11	Family members are proud to be a part of the business	0	0.00	0	0.00	2	1.38	20	13.79	123	84.83	4.83
Q2.12	Family members agree with the goals, plans and policies of the business	0	0.00	1	0.69	10	6.90	45	31.03	89	61.38	4.53
Q2.13	Family members really care about the fate of the business	1	0.69	1	0.69	3	2.07	16	11.03	124	85.52	4.80
Q2.14	Family members are willing to put in extra effort to help the business be successful	0	0.00	0	0.00	2	1.38	30	20.69	113	77.93	4.77

5.4.4.3. Non-economic family goals

This section discusses the results of the non-economic family goals, which were measured as individual single-item measures (Questions 3.5 to 3.7; refer to Section 4.9.2.2). For all the single item measures, the results were higher than the mean (3.12) obtained for the non-economic family goal scale in the study by Chrisman et al. (2012: 282). The results of the individual items are presented in Table 5.3 below. Respondents strongly agreed that family identity and family harmony were particularly highly important family goals, with 5-point Likert scale means higher than 4.

Table 5.3: Non-economic goals multi-item scale results

		Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean
		1		2		3		4		5		
		N	%	n	%	n	%	n	%	n	%	
Q3.5	Family harmony is an important goal when making business decisions	4	2.76	6	4.14	17	11.72	49	33.79	69	47.59	4.19
Q3.6	The social status of the family is an important factor when making family business decisions	12	8.28	20	13.79	48	33.10	33	22.76	32	22.07	3.37
Q3.7	My business is closely linked to the identity of my family	4	2.76	5	3.45	22	15.17	41	28.28	73	50.34	4.2

To the author's knowledge, there is no existing scholarly literature about the role of family harmony when making business decisions in the wine industry. The results from the present study, however, indicate this is indeed an important consideration, with 48 percent ($n = 69$) strongly agreeing and 34 percent ($n = 49$) agreeing that family harmony is an important goal when making business decisions.

More than 50 percent ($n = 73$) of respondents indicated that they strongly agree that the business is closely related to the family. The link between the business and family is particularly pertinent in the wine industry, where a product that is strongly rooted in tradition is closely linked to the family (Gallucci & D'Amato, 2013: 196) and specific non-financial motivations apply to both production and branding in the wine industry (Gilinsky et al., 2008).

The descriptive statistics of the two additional single-item non-economic family goals measures are presented in Table 5.4. The results of Question 3.8 indicate that the respondents strongly agreed that making a meaningful contribution to the community is important, with a high mean value of 4.57. This was much higher than the result obtained (3.60) in the American rural family business study, from which the single-item measure was adopted (Niehm et al., 2008). In a study by Tagiuri and Davis (1992), a higher percentage (41%) of family businesses from the Smaller Company Management Program (SCMP) at the Harvard Business School rated contributing to the community as of "utmost" or "major" importance. In the present study, none of the respondents disagreed that it is important that the business makes a meaningful contribution to the community, while 64 percent ($n = 93$), strongly agreed that making a meaningful contribution is important.

With a mean of 3.96, there was lower agreement that the business needs to provide job opportunities for the next generation. A relatively high percentage (29%; $n = 42$) of respondents indicated that they feel neutral about the family business's role to provide job opportunities for the next generation, which led to a lower mean.

Table 5.4: Additional non-economic goals multi-item scale results

		Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean
		1		2		3		4		5		
		n	%	n	%	N	%	n	%	n	%	
Q3.8	It is important that the business makes a meaningful contribution to the community	0	0.00	0	0.00	11	7.59	41	28.28	93	64.14	4.57
Q3.9	The business needs to provide job opportunities for the next generation	2	1.38	10	6.90	42	28.97	30	20.69	61	42.07	3.96

5.4.5. Innovation

Innovation was measured in terms of managerial innovation (Question 4.1 to 4.5), process innovation (Question 4.6 to 4.10) and product innovation (Question 4.11 to 4.14). The results of these respective scales are presented in Table 5.5.

Managerial innovation had the highest mean (4.08). Question 4.2 relates to investment in applied research and development and had the lowest mean (3.76) of the Managerial Innovation scale, with 28 percent of respondents indicating that they feel neutral about this. It could be argued that this could be ascribed to "the protection of typical and traditional winemaking methods" in family wine businesses (Gallucci & D'Amato, 2013: 196), which does not necessitate investment in applied research. However, of the managerial innovation items, Question 4.1 (Management constantly seeks to develop new ideas), had the highest mean (4.47). It could consequently be argued that if these businesses seek to develop new ideas, without necessarily investing in applied research, the most innovation happens internally and gradually. This is supported by relatively high means for Question 4.9 (continuously reviewing work practices to enhance efficiency) (4.15) and Question 4.13 (constantly modifying products/services to better serve our customers) (4.19), compared to external, technology-based innovation measures, such as Question 4.10 (training people in emerging industry technology) (3.80) and Question 4.6 (constantly use technology to enhance our efficiency) (3.91).

Of the three innovation types, product innovation had the lowest mean (3.81). Comparatively, this seems to be higher than the product innovation result from a study by Baker and Sinkula (1999). This cross-sector, US study of businesses that were not necessarily family businesses, used a similar 7-point Likert scale to measure product innovation, which resulted in a mean of 4.44. The Malaysian study by Che-Ha et al. (2012) from which the innovation scales of the present study were adopted, also utilised a 7-point Likert scale. This study combined managerial, process and product innovation and yielded a mean of 4.96. This innovation scale has not been used in published South African or wine industry studies that the researcher is aware of and studies from other industries and regions are likely to yield different results.

Table 5.5: Innovation multi-item scale results

		Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean 3.96
		1		2		3		4		5		
		n	%	n	%	n	%	N	%	n	%	
		Innovation										3.96
		Managerial innovation										4.08
Q4.1	Management constantly seeks to develop new ideas	0	0.00	0	0.00	14	9.66	49	33.79	82	56.55	4.47
Q4.2	Our business invests in applied research and development	4	2.76	12	8.28	41	28.28	46	31.72	42	28.97	3.76
Q4.3	Innovative ideas are rewarded in our business	2	1.38	5	3.45	36	24.83	52	35.86	50	34.48	3.99
Q4.4	People are encouraged to perceive innovation as an opportunity	1	0.69	3	2.07	23	15.86	49	33.79	69	47.59	4.26
Q4.5	Management rewards individuals for innovative ideas	4	2.76	9	6.21	35	24.14	45	31.03	52	35.86	3.91

Table 5.5: Innovation multi-item scale results (continued)

		Process innovation										3.99
Q4.6	We constantly use technology to enhance our efficiency	1	0.69	12	8.28	33	22.76	52	35.86	47	32.41	3.91
Q4.7	We regularly invest to update our plant and equipment	2	1.38	10	6.90	30	20.69	47	32.41	56	38.62	4.00
Q4.8	We constantly benchmark to world class standards	1	0.69	4	2.76	31	21.38	54	37.24	55	37.93	4.09
Q4.9	Work practices are continuously reviewed to enhance efficiency	1	0.69	3	2.07	25	17.24	60	41.38	56	38.62	4.15
Q4.10	We train our people in emerging industry technology	1	0.69	8	5.52	46	31.72	54	37.24	36	24.83	3.80
		Product innovation										3.81
Q4.11	Our new products/services have caused significant changes in the industry	6	4.14	15	10.34	51	35.17	38	26.21	35	24.14	3.56
Q4.12	We are prepared to introduce a totally new product/ service even though it is risky	8	5.52	12	8.28	27	18.62	57	39.31	41	28.28	3.77
Q4.13	We constantly modify our products/services to better serve our customers	2	1.38	5	3.45	19	13.10	57	39.31	62	42.76	4.19
Q4.14	We prefer to be the first in the market with new products/services	5	3.45	8	5.52	45	31.03	49	33.79	38	26.21	3.74

5.4.6. Conflict

The results of the task conflict (Question 5.1 to 5.3) and relationship conflict (Question 5.4 to 5.6) scales are presented in Table 5.6. The mean of the task conflict scales (2.48) was higher than that of relationship conflict (2.04). This corresponds to the study by Jehn (1995), which also measured a higher mean for task conflict (2.61) than relationship conflict (2.23). The same trend was observed in a more recent Taiwanese study by Huang (2010). These conflict scales have not been utilised in published South African or wine industry studies that the researcher is aware of, but the results seem to be not dissimilar to those obtained in other studies that used these conflict scales.

Question 5.1 (from the relationship conflict scale) had the lowest mean (1.92), with most respondents (51%; $n = 74$) indicating that they strongly disagree that there is a lot of anger among family members. Question 5.6 (from the task conflict scale) had the highest mean (2.80), with 26 percent ($n = 38$) of the respondents indicating that they agree that there are differences of opinion between family members. These two questions are aligned with the higher means for task conflict, compared to relationship conflict.

Table 5.6: Conflict multi-item scale results

		Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean
		1		2		3		4		5		
		n	%	n	%	N	%	N	%	n	%	
		Relationship conflict										2.04
Q5.1	There is a lot of anger among family members	74	51.03	30	20.69	22	15.17	16	11.03	3	2.07	1.92
Q5.2	There is personal friction among family members during decisions	54	37.24	43	29.66	31	21.38	12	8.28	5	3.45	2.11
Q5.3	There is a lot of tension in the family during decisions	55	37.93	44	30.34	26	17.93	17	11.72	3	2.07	2.10
		Task conflict										2.48
Q5.4	There are many disagreements about different ideas	46	31.72	46	31.72	24	16.55	20	13.79	9	6.21	2.31
Q5.5	The family has to work through many differences about the content of decisions	43	29.66	47	32.41	29	20.00	18	12.41	8	5.52	2.32
Q5.6	There are many differences of opinion among the family members	27	18.62	39	26.90	28	19.31	38	26.21	13	8.97	2.80

5.5. SUMMARY

Chapter 5 discussed the descriptive statistics and results of the survey. The descriptive statistics of the businesses in terms of business age and number of employees indicate that the sample was a fair representation of South African wine industry family businesses. Potential bias in terms of individual responses vs. multiple responses per business was discussed and there is no significant difference between these two groups. The descriptive statistics of the key constructs and single-item measures were presented according to the proposed research framework. The results of the present study were compared to those of previous studies that utilised the adopted or similar scales. The results suggest that South African wine industry family businesses have a particularly high intention to transfer the business to the next generation.

CHAPTER 6

CONFLICT, INNOVATION AND FAMILY INFLUENCE: CORRELATIONS AND MODERATOR RELATIONSHIPS

6.1. INTRODUCTION

Descriptive statistics, as presented in Chapter 5, were used to organise and summarise the masses of numerical data (Mason & Lind, 1990: 9) to provide a clearer overview of the businesses that participated in the present study's research survey via a questionnaire.

Chapter 6 utilises inferential statistics to make interpretations concerning some unknown aspects of a population (Mason & Lind, 1990) based on known sample data. In this case, that unknown aspect entails the potential moderating effect of family influence on the relationship between conflict and innovation, based on the framework presented in Figure 1.2. The chapter responds to the hypotheses developed in Section 3.5 and follows the order of these hypotheses.

The different aspects of family influence are related to innovation and conflict, in terms of correlations and moderating effects. The chapter concludes with the partial least squares structural equation model (PLS-SEM), which provides further robustness to the tested hypotheses.

6.2. HYPOTHESES TESTING

The following sections discuss the testing of individual hypotheses. The null hypothesis is only rejected when there is evidence beyond a reasonable doubt that a true difference or association exists. The level of significance or alpha is the threshold value that p-values are measured against. It therefore indicates what the observed results should be to reject the null hypothesis of a significance test. The decision on whether to reject the null hypothesis is based on a predetermined level of significance. To determine if an observed outcome was statistically significant, the p-value was calculated.

For the present study, a p-value of 0.05 or less rejects the null hypothesis at the 5% level (Diamantopoulos & Siguaw, 2000). For the purpose of this study, p-values of < 0.1 are also discussed, due to the exploratory nature of the study. The Pearson correlation coefficient (r) and Pearson p-value of the respective correlations are presented. As discussed in Section 4.10.2, a correlation coefficient of 0.20 to 0.39 was regarded as weak, 0.40 to 0.59 as moderate, 0.60 to 0.79 as strong and 0.80 to 1.0 as very strong (Campbell & Swinscow, 2011; Evans, 1996). In the case of statistically significant findings, bar charts are presented to further illustrate the relevant correlations.

This chapter responds to the hypotheses through the empirical findings of the present study. Discussions relating to literature and the practical implications for the South African wine industry follow in the conclusion in Chapter 7.

6.2.1. Sub-hypothesis 1: Family power: Family management involvement

Family involvement was evaluated in terms of the number of family members involved in the management of the business. The correlations between the number of family members in the management team and the three innovation types are presented in Table 6.1. Correlation coefficients (r-values) of close to zero indicate that there is no linear relationship between the variables. The number of family members involved in the management team of the family business (Question 2.4) did not significantly influence innovation. Null Hypotheses 1a¹, 1a² and 1a³ are subsequently not rejected at a 5% significance level.

Table 6.1: Correlation between family management involvement and innovation

	Variable 1	Variable 2	r	p-value
Hypothesis 1a ¹	Number of family members in the management team	Managerial innovation	-0.08	0.39
Hypothesis 1a ²	Number of family members in the management team	Process Innovation	0.14	0.14
Hypothesis 1a ³	Number of family members in the management team	Product innovation	0.03	0.76

Hypothesis 1a¹: There is no relationship between the number of family members in the business's management team and management innovation.

Null Hypothesis 1a²: There is no relationship between the number of family members in the business's management team and process innovation.

Null Hypothesis 1a³: There is no relationship between the number of family members in the business's management team and product innovation.

The correlations between family members on the management team and task conflict and relationship conflict are presented in Table 6.2. Correlation coefficients (r-values) of close to zero indicate that there is no linear relationship between the variables. The number of family members involved in the management team of the family business did not significantly influence conflict. This was the case for both task and relationship conflict.

Table 6.2: Correlation between family management involvement and conflict

	Variable 1	Variable 2	r	p-value
Hypothesis 1b ¹	Number of family members in the management team	Relationship conflict	0.03	0.78
Hypothesis 1b ²	Number of family members in the management team	Task conflict	0.10	0.27

Null Hypothesis 1b¹ and 1b² are subsequently not rejected at a 5% significance level.

Null Hypothesis 1b¹: There is no relationship between the number of family members in the business's management team and relationship conflict.

Null Hypothesis 1b²: There is no relationship between the number of family members in the business's management team and task conflict.

Based on these hypotheses, it could be suggested that family management involvement does not impact conflict or innovation in wine industry family businesses. In terms of both types of conflict (refer to Tables 6.3 and 6.4), businesses with two family members involved in the management team represented the lowest means (relationship conflict: 1.99; task conflict: 2.29), and businesses with more than four family members involved in the management team represented the highest means (relationship conflict: 2.37; task conflict: 2.77). However, these differences were marginal and not significant.

Table 6.3: Relationship conflict and family member management involvement: means and standard deviations.

Relationship conflict	Mean	Standard deviation
Two family members	1.99	0.13
Three family members	2.01	0.18
Four family members	1.91	0.21
More than four family members	2.37	0.31

Table 6.4: Task conflict and family member management involvement: means and standard deviations.

Task conflict	Mean	Standard deviation
Two family members	2.29	0.14
Three family members	2.57	0.20
Four family members	2.39	0.23
More than four family members	2.77	0.34

6.2.2. Sub-hypothesis 2: Family experience: Business age and generations

The family experience dimension was evaluated in terms of business age in number of years and the number of generational transfers. The correlations between business age and managerial, process and product innovation are presented in Table 6.5. The results indicate that there is a weak, positive ($r = 0.19$), but statistically significant ($p = 0.04$) correlation between process innovation and business age.

Table 6.5: Correlation between business age and innovation

	Variable 1	Variable 2	R	p-value
Hypothesis 2a1	Business age	Managerial innovation	0.04	0.69
Hypothesis 2a2	Business age	Process innovation	0.19	0.04
Hypothesis 2a3	Business age	Product innovation	0.06	0.51

There was no linear relationship between business age and managerial innovation or product innovation and Null Hypotheses 2a¹ and 2a³ are not rejected. The correlation between process innovation and business age suggests that Null Hypothesis 2a^{2b} should be rejected, in favour of the alternative hypothesis: Null Hypothesis 2a¹: There is no relationship between business age and managerial innovation.

Alternative Hypothesis 2a^{2b}: Older family businesses are associated with higher levels of process innovation.

Null Hypothesis 2a³: There is no relationship between business age and product innovation.

The correlations between the generation managing the family business (such as first generation, second generation or third generation) and managerial, process and product innovation are presented in Table 6.6. The results indicate that there is a weak, positive ($r = 0.21$) but statistically significant ($p = 0.03$) correlation between process innovation and the managing generation. There was no linear relationship between the managing generation and managerial innovation or product innovation.

Table 6.6: Correlation between managing generation and innovation

	Variable 1	Variable 2	R	p-value
Hypothesis 2b ¹	Managing generation	Managerial innovation	-0.03	0.76
Hypothesis 2b ²	Managing generation	Process innovation	0.21	0.025
Hypothesis 2b ³	Managing generation	Product innovation	0.09	0.34

Table Null Hypothesis 2b¹ and Null Hypothesis 2b³ were not rejected. Based on the correlation between managing generation and process innovation, Null Hypothesis 2b² is rejected at a 5% significance level. The following alternative hypothesis was subsequently accepted:

Null Hypothesis 2b¹: There is no relationship between the managing generation and managerial innovation.

Alternative Hypothesis 2b^{2b}: Later-generation family businesses are associated with higher levels of process innovation.

Null Hypothesis 2b³: There is no relationship between managing generation and product innovation.

The correlation between process innovation and managing generation supports the finding of a correlation between business age and process innovation. The positive correlations between business age as well as the managing generation and process innovation indicate older or later-generation businesses presented more process innovation.

The correlation between business age and relationship conflict and task conflict is presented in Table 6.7. Correlation coefficients of close to zero ($r = 0.10$; $r = 0.13$) and high p-values ($p = 0.27$; $p = 0.16$) indicate that there is no linear relationship between business age and conflict. It is concluded that the independent variable (business age) did not significantly influence the dependent variable (conflict) at the 5% significance level.

Table 6.7: Correlation between business age and conflict

	Variable 1	Variable 2	R	p-value
Hypothesis 2c ¹	Business age	Relationship conflict	0.10	0.27
Hypothesis 2c ²	Business age	Task conflict	0.13	0.16

Null Hypotheses 2c¹ and 2c² are not rejected at a 5% significance level.

Null Hypothesis 2c¹: There is no relationship between business age and relationship conflict.

Null Hypothesis 2c²: There is no relationship between business age and task conflict.

The correlations between the managing generation and relationship conflict and task conflict are presented in Table 6.8. Correlation coefficients of close to zero ($r = 0.05$; $r = 0.10$) and high p-values ($p = 0.61$; $p = 0.25$) indicate that there is no linear relationship between the managing generation and conflict.

Table 6.8: Correlation between managing generation and conflict

	Variable 1	Variable 2	R	p-value
Hypothesis 2d ¹	Managing generation	Relationship conflict	0.05	0.61
Hypothesis 2d ²	Managing generation	Task conflict	0.10	0.25

It is concluded that the independent variable (managing generation) did not significantly influence the dependent variable (conflict) at the 5% significance level. Consequently, the null hypotheses were not rejected:

Null Hypothesis 2d¹: There is no relationship between the managing generation and relationship conflict.

Null Hypothesis 2d²: There is no relationship between the managing generation and task conflict.

6.2.3. Sub-hypothesis 3 to 4: Generational overlap: Management and ownership

The following section evaluates the impact of generational overlaps of both management and ownership in terms of innovation and conflict.

In order to investigate the influence of a generational overlap in terms of management (Question 2.6), businesses with only one generation involved were compared with businesses with more than one generation involved in management. The businesses that had indicated that two generations are involved in management and those that had indicated that three or more generations are involved in management were combined, because the latter group was very small (2%, refer to Section 5.4.3.1).

Table 6.9 presents the ANOVA results, comparing these two groups. There were no statistically significant differences between the groups in terms of both process innovation ($p = 0.42$) and product innovation ($p = 0.68$). The groups differed more in terms of managerial innovation ($p = 0,07$), with the group representing businesses with two or more generations involved in management (mean = 3.96) measuring lower managerial innovation, than the group with just one generation involved in management (mean = 4.19). However, this difference was not significant at a 5% significance level.

Table 6.9: Generational management overlap and innovation

	Variable 1	Variable 2	F-statistic	p-value
Hypothesis 3a ¹	Generations involved in management	Managerial innovation	3.40	0.07
Hypothesis 3a ²	Generations involved in management	Process innovation	0.64	0.42
Hypothesis 3a ³	Generations involved in management	Product innovation	0.17	0.68

All the null hypotheses are subsequently not rejected at a 5% significance level:

Null Hypothesis 3a¹: There is no relationship between the number of generations involved in the management of the family business and managerial innovation.

Null Hypothesis 3a²: There is no relationship between the number of generations involved in the management of the family business and process innovation.

Null Hypothesis 3a³: There is no relationship between the number of generations involved in the management of the family business and product innovation.

Table 6.10 presents the ANOVA results, comparing businesses with only one generation involved with businesses with more than one generation involved in management. There were no statistically significant differences between the groups in terms of relationship conflict ($p = 0.54$) and task conflict ($p = 0.67$).

Table 6.10: Generational management overlap and conflict

	Variable 1	Variable 2	F-statistic	p-value
Hypothesis 3b ¹	Generations involved in management	Relationship conflict	0.38	0.54
Hypothesis 3b ²	Generations involved in management	Task conflict	0.18	0.67

The Null Hypotheses are subsequently not rejected at a 5% significance level.

Null Hypothesis 3b¹: There is no relationship between the number of generations involved in the management of the family business and relationship conflict.

Null Hypothesis 3b²: There is no relationship between the number of generations involved in the management of the family business and task conflict.

In order to investigate the influence of a generational overlap in terms of ownership dispersion (Question 2.7), businesses with only one generation that owns the business were compared with businesses with more than one generation sharing ownership. The businesses that had indicated that two generations share ownership and those that had indicated that three or more generations share ownership were combined, because the latter group was very small (3%, refer to Section 5.4.3.2).

Table 6.11 presents the ANOVA results, comparing these two groups. There were no statistically significant differences between the groups in terms of managerial ($p = 0.17$), process ($p = 0.96$) or product innovation ($p = 0.81$).

Table 6.11: Generational ownership dispersion and innovation

	Variable 1	Variable 2	F-statistic	p-value
Hypothesis 4a ¹	Ownership dispersion	Managerial innovation	1.87	0.17
Hypothesis 4a ²	Ownership dispersion	Process innovation	0.002	0.96
Hypothesis 4a ³	Ownership dispersion	Product innovation	0.59	0.81

All the null hypotheses are not rejected at a 5% significance level.

Null Hypothesis 4a¹: There is no relationship between ownership dispersion between generations and managerial innovation.

Null Hypothesis 4a²: There is no relationship between ownership dispersion between generations and process innovation.

Null Hypothesis 4a³: There is no relationship between ownership dispersion between generations and product innovation.

Table 6.12 presents the ANOVA results, comparing the two groups in terms of ownership dispersion. There were no statistically significant differences between the groups in terms of relationship conflict ($p = 0.45$) and task conflict ($p = 0.94$).

Table 6.12: Generational ownership dispersion and conflict

	Variable 1	Variable 2	F-statistic	p-value
Hypothesis 4b ¹	Generations involved in management	Relationship conflict	0.57	0.45
Hypothesis 4b ²	Generations involved in management	Task conflict	0.005	0.94

The Null Hypotheses are subsequently not rejected at a 5% significance level.

Null Hypothesis 4b¹: There is no relationship between ownership dispersion between generations and relationship conflict.

Null Hypothesis 4b²: There is no relationship between ownership dispersion between generations and task conflict.

6.2.4. Sub-hypothesis 5: Generational overlap: Goal alignment

The following section evaluates goal alignment as a dimension of family essence. The relationships between goal alignment – as measured by Question 3.1 – and conflict and innovation are investigated.

The correlations between similar goals across generations and managerial, process and product innovation are presented in Table 6.13. The results indicate that there is a weak, positive but statistically significant linear relationship between similar goals across generations and managerial innovation ($r = 0.30$; $p < 0.01$), as well as product innovation ($r = 0.31$; $p < 0.01$) and a moderate, positive and statistically significant relationship between similar goals across generations and process innovation ($R = 0.44$; $p = 0.03$). These results suggest that higher levels of similar goals between generations are likely to be associated with higher levels of innovation.

Table 6.13: Correlation between generational goal alignment and innovation

	Variable 1	Variable 2	R	p-value
Hypothesis 5a ¹	Similar goals across generations	Managerial innovation	0.30	<0.01
Hypothesis 5a ²	Similar goals across generations	Process innovation	0.44	<0.01
Hypothesis 5a ³	Similar goals across generations	Product innovation	0.31	<0.01

The Null Hypotheses are subsequently rejected at a 5% significance level for each innovation type. The following alternative hypotheses were subsequently accepted:

Alternative Hypothesis 5a¹: When the goals of different generations are similar, the business will present higher levels of managerial innovation.

Alternative Hypothesis 5a²: When the goals of different generations are similar, the business will present higher levels of process innovation.

Alternative Hypothesis 5a³: When the goals of different generations are similar, the business will present higher levels of product innovation.

The correlations between similar goals across generations and relationship conflict, as well as task conflict, are presented in Table 6.14. The results indicate that there is a moderate, negative and statistically significant linear relationship between goal alignment between generations and relationship conflict ($R = -0.45$; $p < 0.01$) and a weak, negative and statistically significant relationship between family commitment and task conflict ($R = -0.36$; $p < 0.01$). This means that higher levels of goal alignment between generations is likely to be associated with lower levels of conflict – especially relationship conflict.

Table 6.14: Correlation between generational goal alignment and conflict

	Variable 1	Variable 2	R	p-value
Hypothesis 5b ¹	Similar goals across generations	Relationship conflict	-0.45	<0.01
Hypothesis 5b ²	Similar goals across generations	Task conflict	-0.36	<0.01

These results provide evidence that high levels of goal alignment are likely to be associated with lower levels of conflict. The respective Null Hypotheses are rejected at a 5% significance level. The alternative hypotheses were subsequently accepted:

Alternative Hypothesis 5b¹: When the goals of different generations are similar, the business will present lower levels of relationship conflict.

Alternative Hypothesis 5b²: When the goals of different generations are similar, the business will present lower levels of task conflict.

This section investigates the moderating effect of similar goals between generations as a moderator of the relationship between task conflict and the three measured types of innovation. Refer to Section 4.10.3 for an overview of moderator assessment, as applied in the present study.

Table 6.15: Goal alignment as a moderator of task conflict and innovation

	Independent variable	Moderator	Dependent variable	Moderator beta (std)	Interaction coefficient	R ² with interaction	R ² ind var only	R ² change	p-value
Hypothesis 5c ¹	Task conflict	Similar goals across generations	Managerial Innovation	0.31	-0.13	0.12	0.11	-0.01	0.28
Hypothesis 5c ²	Task conflict	Similar goals across generations	Process Innovation	0.48	-0.14	0.21	0.19	-0.01	0.22
Hypothesis 5c ³	Task conflict	Similar goals across generations	Product Innovation	0.38	-0.17	0.12	0.09	-0.02	0.16

In the present case, the change in R² was very small for managerial innovation (-0.01), process innovation (0.01) and product innovation (-0.02). The p-values in the moderator analyses relate to the change in R², due to the interaction of the moderator and without the interaction. High p-values for the moderating effect of similar goals between generations on the relationship between task conflict and managerial innovation (p = 0.28), process innovation (p = 0.22) and product innovation (p = 0.16) suggest that the moderating effect of similar goals across generations is not statistically significant. It can therefore be posited that similar goals across generations is not a significant moderator of the relationship between task conflict and innovation. The Null Hypotheses can subsequently not be rejected:

Null Hypothesis 5c¹: Whether goals between generations are similar does not impact the relationship between task conflict and managerial innovation

Null Hypothesis 5c²: Whether goals between generations are similar does not impact the relationship between task conflict and managerial innovation

Null Hypothesis 5c³: Whether goals between generations are similar does not impact the relationship between task conflict and product innovation

6.2.5. Sub-hypothesis 6: Family essence: Intention to transfer the business to the next generation

The following section compares the differences between the responses within the sample that intends generational transfer to the group that does not intend to do so.

The F-statistic and p-value of the one-way ANOVA tests for managerial, process and product innovation in terms of the intention to transfer the business to the next generation (Question 2.1) are

presented in Table 6.16. The group that indicated that they intend to transfer the business to the next generation differed significantly from the one that indicated that they do not intend to transfer the business to the next generation, in terms of both process innovation ($p = 0.002$) and product innovation ($p = 0.03$).

Table 6.16: Intention to transfer the business to the next generation and innovation

	Variable 1	Variable 2	F-statistic	p-value
Hypothesis 6a ¹	Intention to transfer	Managerial innovation	1.94	0.166
Hypothesis 6a ²	Intention to transfer	Process innovation	9.99	0.002
Hypothesis 6a ³	Intention to transfer	Product innovation	4.73	0.03

Figure 6.1 and Figure 6.2 graphically present the mean differences between the groups that intend to transfer the business to the next generation and the one that does not, in terms of process innovation and product innovation, respectively. In both cases, the groups vary significantly in terms of means.

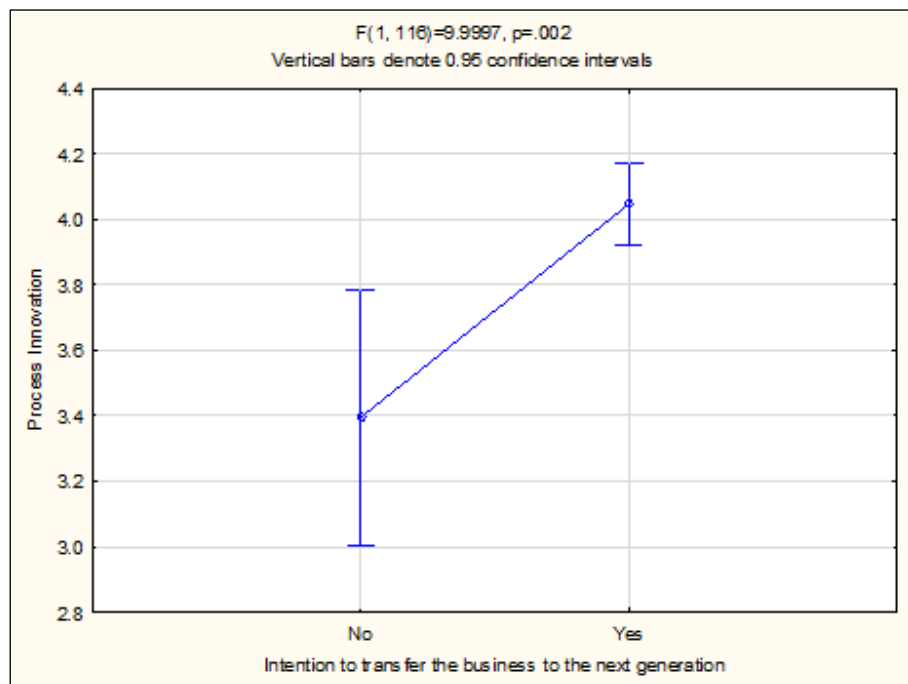


Figure 6.1: Intention to transfer the business to the next generation and process innovation

Table 6.17: Descriptive statistics: Intention to transfer the business to the next generation and process innovation

Intention to transfer the business to the next generation	Process innovation	
	Mean	Standard deviation
No	3.40	0.55
Yes	4.05	0.70

The vertical bars in Figure 6.1 indicate significant differences between the two groups. The businesses that indicated that they intend to transfer the business to the next generation also provided a higher mean score (refer to Table 6.17) for the Process Innovation scale. It can therefore be implied that the intention to transfer the business to the next generation also presented a higher level of process innovation.

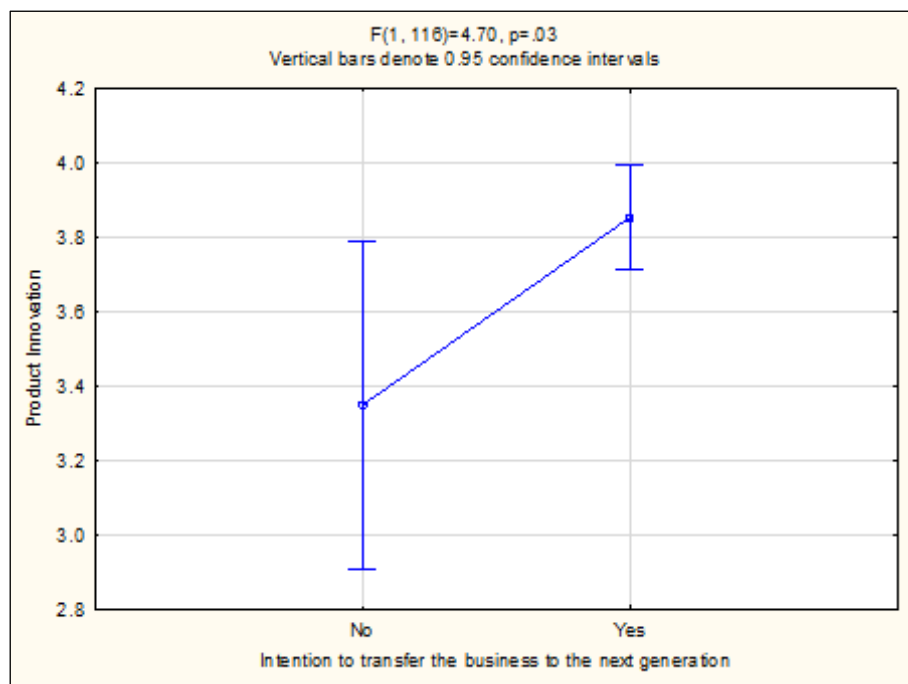


Figure 6.2: Intention to transfer the business to the next generation and product innovation

Table 6.18: Descriptive statistics: Intention to transfer the business to the next generation and process innovation

Intention to transfer the business to the next generation	Product innovation	
	Mean	Standard deviation
No	3.35	0.55
Yes	3.86	0.79

Similar to the case of process innovation (Figure 6.1), the vertical bars in Figure 6.2 indicate significant differences between the means of the two groups. The businesses that indicated that they intend to transfer the business to the next generation also provided a higher mean score for the product innovation scale (refer to Table 6.18). It can be implied that there is evidence of differences in the means across groups. It is concluded that the independent variable (intention to transfer the business to the next generation) has a significant positive effect on the dependent variables (process innovation and product innovation). These results suggest that Null Hypotheses 6a² and Null Hypothesis 6a³ should be rejected at a 5% significance level. The following alternative hypotheses were subsequently accepted:

Null Hypothesis 6a¹: There is no relationship between the intention to transfer the business to the next generation and managerial innovation.

Alternative Hypothesis 6a²: Family businesses that intend to transfer the business to the next generation, are associated with higher levels of process innovation

Alternative Hypothesis 6a³: Family businesses that intend to transfer the business to the next generation, are associated with higher levels of product innovation

The F-statistic and p-value of the one-way ANOVA tests for task conflict and relationship conflict in terms of the intention to transfer the business to the next generation (Question 2.1) are presented in Table 6.19. The mean of the group that indicated that they intend to transfer the business to the next generation was not statistically different from the mean of the group that indicated that they do not intend to transfer the business to the next generation, in terms of both relationship conflict ($p = 0.51$) and task conflict ($p = 0.83$).

Table 6.19: Intention to transfer the business to the next generation and conflict

	Variable 1	Variable 2	F-statistic	p-value
Hypothesis 6b ¹	Intention to transfer	Relationship conflict	0.44	0.51
Hypothesis 6b ²	Intention to transfer	Task conflict	0.04	0.83

Because the two groups did not differ, it can be implied that whether or not there was an intention to transfer the business to the next generation did not significantly impact the perceived conflict within these businesses. The Null Hypotheses are therefore not rejected at a 5% significance level.

Null Hypothesis 6b¹: There is no relationship between the intention to transfer the business to the next generation and relationship conflict.

Null Hypothesis 6b²: There is no relationship between the intention to transfer the business to the next generation and task conflict.

6.2.6. Sub-hypothesis 7: Family essence: Family commitment

The following section evaluates family commitment as a dimension of family essence. The relationships between family commitment – as measured by the family commitment scale – and conflict and innovation are investigated.

The correlations between family commitment and managerial, process and product innovation are presented in Table 6.20 below. The results indicate that there is a weak, positive but statistically significant linear relationship between family commitment and managerial innovation ($r = 0.20$; $p = 0.03$), process innovation ($r = 0.20$; $p = 0.03$) and product innovation ($r = 0.26$; $p < 0.01$). This suggests that higher levels of family commitment are likely to be associated with higher levels of all the different types of innovation.

Table 6.20: Correlation between family commitment and innovation

	Variable 1	Variable 2	r	p-value
Hypothesis 7a ¹	Family commitment	Managerial innovation	0.20	0.03
Hypothesis 7a ²	Family commitment	Process innovation	0.20	0.03
Hypothesis 7a ³	Family commitment	Product innovation	0.26	<0.01

Of the three types of innovation, product innovation presented the strongest, positive linear relationship with family commitment. With wine production being a long-term investment (vineyards generally only start bearing quality fruit after at least 10 years), product innovation also necessitates a long-term commitment. It could be argued that this long-term commitment explains the stronger correlation between family commitment and product innovation. It is concluded that the independent variable (family commitment) significantly influenced the dependent variable (innovation). The Null Hypothesis was subsequently rejected at a 5% significance level for each innovation type. The following alternative hypotheses were subsequently accepted:

Alternative Hypothesis 7a¹: Family businesses with high levels of family commitment are associated with higher levels of managerial innovation.

Alternative Hypothesis 7a²: Family businesses with high levels of family commitment are associated with higher levels of process innovation.

Alternative Hypothesis 7a³: Family businesses with high levels of family commitment are associated with higher levels of product innovation.

The correlations between family commitment and relationship conflict and task conflict are presented in Table 6.21. The results indicate that there is a moderate, negative and statistically significant linear relationship between family commitment and relationship conflict ($r = -0.45$; $p < 0.01$) and a weak, negative and statistically significant relationship between family commitment and task conflict ($r = -$

0.36; $p < 0.01$). This means that higher levels of family commitment are likely to be associated with lower levels of conflict – especially relationship conflict.

Table 6.21: Correlation between family commitment and conflict

	Variable 1	Variable 2	r	p-value
Hypothesis 7b ¹	Family commitment	Relationship conflict	-0.45	<0.01
Hypothesis 7b ²	Family commitment	Task conflict	-0.36	<0.01

These results provide evidence that family commitment effects conflict and that high levels of family commitment are likely to be associated with lower levels of conflict. Both Null Hypotheses 4b are rejected at a 5% significance level. The alternative hypotheses are subsequently accepted:

Alternative Hypothesis 7b¹: Family businesses with high levels of family commitment are associated with less relationship conflict.

Alternative Hypothesis 7b²: Family businesses with high levels of family commitment are associated with less task conflict.

The following section evaluates the moderating role of family commitment on the relationship between task conflict and the different types of innovation. Refer to Section 4.10.3 for an overview of the assessment of moderators, as applied in the present study.

Table 6.22: Family commitment as a moderator of the relationship between task conflict and innovation

	Independent variable	Moderator	Dependent variable	Independent var beta (std)	Moderator beta (std)	Interaction coefficient	R ² with interaction	R ² ind var only	R ² change	p-value
Hypothesis 7c ¹	Task conflict	Family commitment	Managerial Innovation	-0.17	0.05	0.18	0.09	0.07	0.02	0.08
Hypothesis 7c ²	Task conflict	Family commitment	Process Innovation	-0.08	0.01	0.32	0.12	0.05	0.08	<0.01
Hypothesis 7c ³	Task conflict	Family commitment	Product Innovation	0.02	0.23	0.08	0.07	0.07	0.00	0.45

The moderating effect of family commitment on the relationship between task conflict and the different types of innovation is presented in Table 6.22. Interaction effects can be interpreted by looking at the sign of the interaction coefficient. If the interaction coefficient is negative, then the relationship between the independent variable and the dependent variable will become “more negative” as the level of the moderator increases. The positive interaction coefficients indicate that

the relationship between the independent variable and the dependent will become “more positive” as the level of the moderator increases.

The coefficient of determination (R^2) is the proportion of the variance in the dependent variable that is predictable from the independent variable. A R^2 value of zero would therefore mean that there is no correlation between the variables. For the purpose of analysing the effect of a moderator, R^2 without the interaction of the moderator is compared to R^2 with the interaction of the moderator. In the case of the present study, the highest change in R^2 was for process innovation (-0.08). This means that there is higher correlation between task conflict (independent variable) and process innovation (dependent variable) when the interaction of the moderator (family commitment) is taken into account. This is confirmed by the very small moderator beta (<0.01), as well as the highest, positive interaction coefficient (0.32). A low p-value (<0.01) confirms statistical significance of the moderating influence of family commitment on the relationship between task conflict and process innovation, at a 5% significance level. The influence of family commitment as a moderator of task conflict and process innovation is presented in Figure 6.3 below. The blue line represents businesses that reported low levels of family commitment and the red line represents businesses the reported high levels of family commitment. All the scores are standardised, which means that the mean value of the relevant Likert score was subtracted from the respective observations. Observed values above the mean therefore had positive standard scores, while values below the mean had negative standard scores. In the case of high levels of family commitment, higher levels of task conflict were associated with higher levels of process innovation. With low levels of family commitment, higher levels of task conflict were associated with lower levels of process innovation.

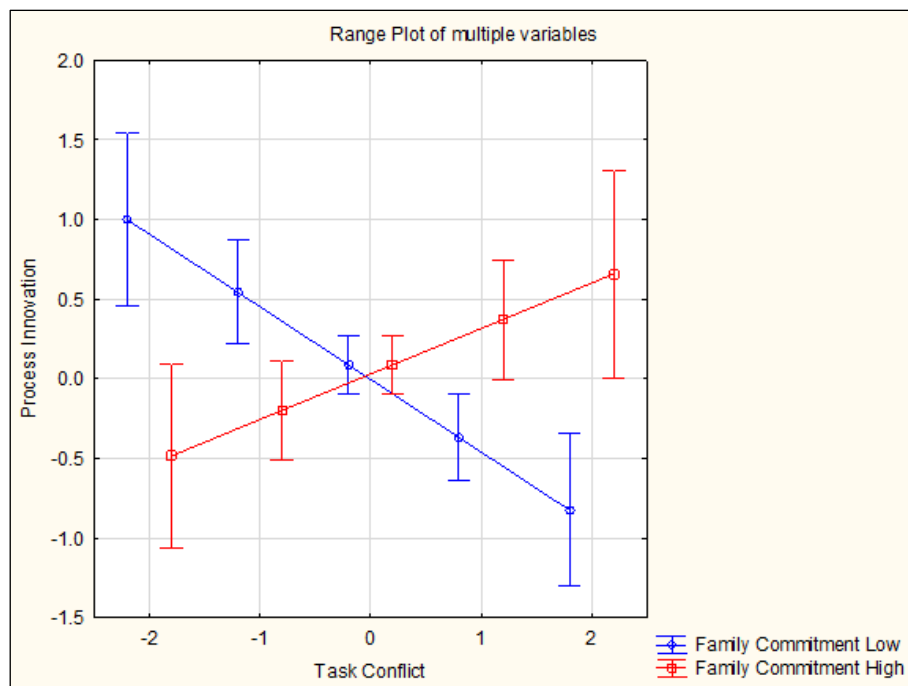


Figure 6.3: The moderating role of family commitment between task conflict and process innovation

The p-value of the moderation of family commitment between task conflict and managerial innovation (0.08; refer to Table 6.22) indicates it is not statistically significant at a 5% significance level. For the purpose of this exploratory study it is, however, worth mentioning that although the moderating role of family commitment was less evident with managerial innovation than process innovation, there was evidence of weak moderation (significant at a 10% significance level). This is supported by the low moderator beta (0,05) and interaction coefficient of 0.18.

This study provides evidence that suggests that family commitment is a moderator of task conflict and process innovation and, to a lesser degree (non-significant), managerial innovation. Null Hypotheses $7c^1$ and $7c^3$ can subsequently not be rejected but Null Hypothesis $7c^2$ is rejected and the following alternative hypothesis is accepted:

Null Hypothesis $7c^1$: Family commitment does not influence the relationship between task conflict and managerial innovation.

Alternative Hypothesis $7c^2$: Family commitment moderates the relationship between task conflict and process innovation.

Null Hypothesis $7c^3$: Family commitment does not influence the relationship between task conflict and product innovation.

6.2.7. Sub-hypotheses 8 to 12: Non-economic goals

The following section evaluates non-economic family goals as a dimension of family essence. The relationships between non-economic goals, conflict and innovation, as well as the moderating effect of non-economic goals as potential moderators of the relationships between conflict and innovation will be investigated. The non-economic goals (Questions 3.5 to 3.9) were evaluated as individual measures (refer to Section 4.9.2.2).

6.2.7.1. Family harmony

This section evaluates harmony as a family goal. The influence of family harmony as a family goal is evaluated in terms on its influence on innovation, conflict as well as the relationship between conflict and innovation.

Table 6.23 presents the correlations between harmony as a family goal (Question 3.5) and the three measured types of innovation. The results indicate that there is a weak, positive but statistically significant correlation between harmony as a family goal and managerial innovation ($r = 0.19$; $p = 0.04$), as well as product innovation ($r = 0.19$; $p = 0.04$) and a moderate, positive correlation between harmony as a family goal and process innovation ($r = 0.3$; $p < 0.01$). These results present evidence that harmony as a family goal was correlated with higher innovation. Null Hypotheses $8a^1$, $8a^2$ and $8a^3$ are subsequently rejected at a 5% significance level and the following alternative hypotheses are accepted.

Table 6.23: The correlation between harmony as a non-economic family goal and innovation

	Variable 1	Variable 2	r	p-value
Hypothesis 8a ¹	Harmony as a family goal	Managerial innovation	0.19	0.04
Hypothesis 8a ²	Harmony as a family goal	Process innovation	0.30	<0.01
Hypothesis 8a ³	Harmony as a family goal	Product innovation	0.19	0.04

Alternative Hypothesis 8a¹: Family businesses that regard harmony as important when making business decisions are associated with higher managerial innovation.

Alternative Hypothesis 8a²: Family businesses that regard harmony as important when making business decisions are associated with higher process innovation.

Alternative Hypothesis 8a³: Family businesses that regard harmony as important when making business decisions are associated with higher product innovation.

The results of the moderating influence of harmony as a family goal on the relationship between task conflict and the three types of innovation are presented in Table 6.24. Of the three types of measured innovation, harmony as a family goal had the strongest moderating effect on managerial innovation. This is reflected in the highest R² change (-0.05) and a p-value that indicates statistical significance for the purpose of this study ($p = 0.02$). The negative interaction coefficient (-0.22) indicates that the relationship between the independent variable and the dependent variable will become “more negative” as the level of the moderator increases.

Table 6.24: The moderating role of harmony as a non-economic family goal on the relationship between conflict and innovation

	Independent variable	Moderator	Dependent variable	Moderator beta (std)	Independent var beta (std)	Interaction coefficient	R ² with interaction	R ² ind var only	R ² change	p-value
Hypothesis 8b ¹	Task conflict	Harmony as a family goal	Managerial Innovation	0.16	-0.21	-0.22	0.12	0.07	-0.05	0.02
Hypothesis 8b ²	Task conflict	Harmony as a family goal	Process Innovation	0.29	-0.10	-0.08	0.10	0.10	-0.01	0.38
Hypothesis 8b ³	Task conflict	Harmony as a family goal	Product Innovation	0.19	-0.05	-0.10	0.05	0.04	-0.01	0.29

The moderating effect of harmony as a non-economic goal on the relationship between task conflict and managerial innovation is illustrated in Figure 6.4. The red line represents businesses which indicated that harmony is an important family goal. The blue line represents businesses which did not rate harmony as an important family goal.

In the case of businesses that indicated that harmony is an important non-economic goal, managerial innovation was low with higher task conflict. In the case of businesses that did not regard harmony as an important non-economic family goal, higher task conflict was associated with the same level or slightly higher managerial innovation. Harmony as a non-economic goal did not significantly influence the relationship between task conflict and either process innovation or product innovation. Null Hypothesis 8b² and Null Hypothesis 8b³ cannot be rejected.

The study presents evidence that harmony as a non-economic family goal has a moderating influence on the relationship between task conflict and managerial innovation. Null Hypothesis 8b¹ is subsequently rejected at a 5% significance level. The following alternative hypothesis is subsequently proposed:

Alternative Hypothesis 8b¹: Family harmony as a non-economic family goal moderates the relationship between task conflict and managerial innovation.

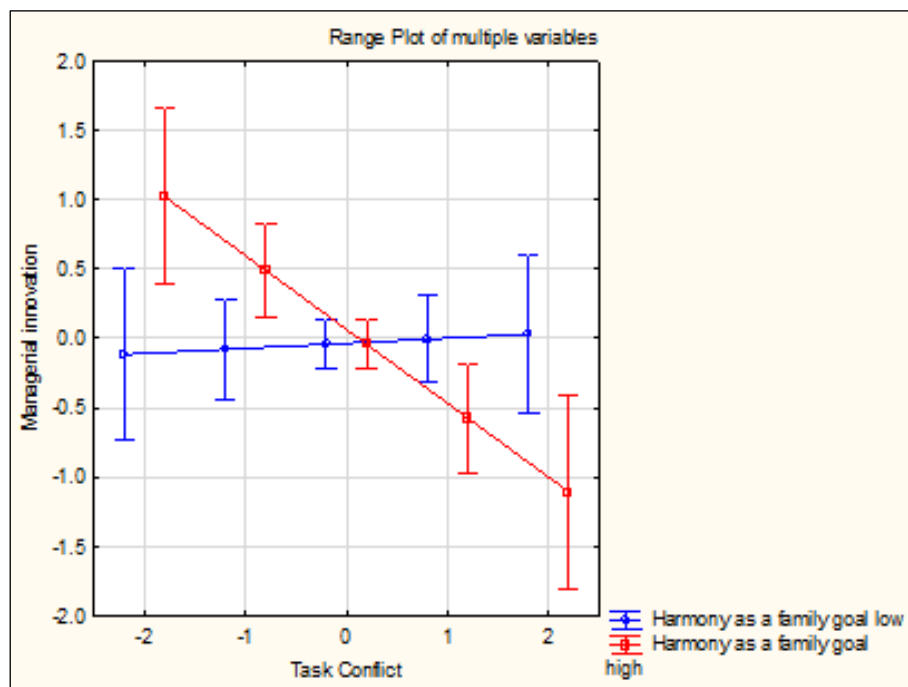


Figure 6.4: The moderating role of harmony as a non-economic family goal between task conflict and managerial innovation

6.2.7.2. Social status

Table 6.25 presents the correlations between social status as a family goal (Question 3.6) and the three measured types of innovation. The results indicate that there is a weak, positive but statistically significant correlation between social status as a family goal and managerial innovation ($r = 0.18$; $p = 0.049$) and a moderate, positive correlation between social status as a family goal and process innovation ($r = 0.3$; $p < 0.01$). The correlation between product innovation and social status as a family goal was very weak and not statistically significant ($r = 0.13$; $p = 0.16$). Albeit weak, these results present evidence that having social status as a family goal was correlated with higher innovation.

Table 6.25: The correlation between social status as a non-economic family goal and innovation

	Variable 1	Variable 2	r	p-value
Hypothesis 9a ¹	Social status as a family goal	Managerial innovation	0.18	0.049
Hypothesis 9a ²	Social status as a family goal	Process innovation	0.30	<0.01
Hypothesis 9a ³	Social status as a family goal	Product innovation	0.13	0.16

Null Hypothesis 9a³ cannot be rejected, but Null Hypothesis 9a² and Null Hypothesis 9a¹ are rejected at a 5% significance level in favour of the alternative hypothesis.

Alternative Hypothesis 9a¹: Family businesses that regard social status as important when making business decisions will present higher levels of managerial innovation.

Alternative Hypothesis 9a²: Family businesses that regard social status as important when making business decisions will present higher levels of process innovation.

The results of the moderating influence of social status as a family goal on the relationship between task conflict and the three types of conflict is presented in Table 6.26. The results indicate that social status as a non-economic family goal was not a statistically significant moderator of the relationship between task conflict and innovation ($p > 0.05$). Null Hypotheses 9b¹, 9b² and 9b³ are subsequently not rejected at a 5% significance level.

Table 6.26: The moderating role of social status as a non-economic family goal in in the relationship between task conflict and innovation

	Independent variable	Moderator	Dependent variable	Independent var Beta (std)	Moderator beta (std)	Interaction coefficient	R ² with interaction	R ² ind var only	R ² change	p-value
Hypothesis 9b ¹	Task conflict	Social status as a family goal	Managerial Innovation	-0.20	0.15	-0.12	0.09	0.07	-0.01	0.19
Hypothesis 9b ²	Task conflict	Social status as a family goal	Process Innovation	-0.12	0.29	-0.02	0.11	0.10	0.00	0.78
Hypothesis 9b ³	Task conflict	Social status as a family goal	Product Innovation	-0.06	0.12	-0.04	0.02	0.02	0.00	0.68

6.2.7.3. The link between the business and family's identity

Table 6.27 presents the correlations between a close link between the business and the family's identity (Question 3.7) and the three measured types of innovation. The results indicate that there is a moderate, positive but statistically significant correlation between a close link between the business and the family's identity and managerial innovation ($r = 0.31$; $p < 0.01$) as well as process innovation ($r = 0.33$; $p < 0.01$) and product innovation ($r = 0.21$; $p = 0.19$).

Table 6.27: The correlation between the link between the business and the family's identity and innovation

	Variable 1	Variable 2	R	p-value
Hypothesis 10a ¹	Link with family identity	Managerial innovation	0.31	<0.01
Hypothesis 10a ²	Link with family identity	Process Innovation	0.33	<0.01
Hypothesis 10a ³	Link with family identity	Product innovation	0.21	0.019

These results present evidence that social status as a family goal was correlated with higher innovation. Null Hypotheses 10b¹, 10b² and 10b³ are subsequently rejected at a 5% significance level, in favour of the following alternative hypotheses:

Alternative Hypothesis 10a¹: A close link between the business and the family identity is associated with higher levels of managerial innovation.

Alternative Hypothesis 10a²: A close link between the business and the family identity is associated with higher levels of process innovation.

Alternative Hypothesis 10a³: A close link between the business and the family identity is associated with higher levels of product innovation.

The results of the moderating influence of a close link between the business and the family identity on the relationship between task conflict and the three types of conflict are presented in Table 6.28. The results indicate that having a strong link or not between the identity of the family and business was not a statistically significant moderator of the relationship between task conflict and innovation ($p > 0.1$).

Table 6.28: The moderating role of the strength of the link between the family and business in the relationship between task conflict and innovation

	Independent variable	Moderator	Dependent variable	Moderator beta (std)	Interaction coefficient	R ² with interaction	R ² ind var only	R ² change	p-value
Hypothesis 10b ¹	Task conflict	Family identity	Managerial Innovation	0.29	-0.02	0.13	0.13	-0.0005	0.78
Hypothesis 10b ²	Task conflict	Family identity	Process Innovation	0.32	-0.03	0.12	0.12	-0.0008	0.73
Hypothesis 10b ³	Task conflict	Family identity	Product Innovation	0.22	-0.07	0.05	0.05	-0.004	0.45

Null Hypotheses 10b¹, 10b² and 10b³ were subsequently not rejected at a 5% significance level.

Null Hypothesis 10b¹: A close link between the business and the family identity does not influence the relationship between task conflict and managerial innovation.

Null Hypothesis 10b²: A close link between the business and the family identity does not influence the relationship between task conflict and process innovation.

Null Hypothesis 10b³: A close link between the business and the family identity does not influence the relationship between task conflict and product innovation.

6.2.7.4. Community contribution

Table 6.29 presents the correlations between the importance of the business making a meaningful contribution to the community (Question 3.8) and the three measured types of innovation. The results indicate that there is a weak, positive, but statistically significant correlation between the business making a meaningful contribution and managerial innovation ($r = 0.21$; $p = 0.02$), process innovation ($r = 0.28$; $p < 0.01$) and product innovation ($r = 0.23$; $p = 0.01$).

Table 6.29: The correlation between the importance of making a meaningful contribution to the community and innovation

	Variable 1	Variable 2	r	p-value
Hypothesis 11a ¹	Contribution to society	Managerial innovation	0.21	0.02
Hypothesis 11a ²	Contribution to society	Process innovation	0.28	<0.01
Hypothesis 11a ³	Contribution to society	Product innovation	0.23	0.01

Null Hypotheses 11a¹, 11a² and 11a³ are subsequently rejected at a 5% significance level, in favour of the following alternative hypotheses:

Alternative Hypothesis 11a¹: Family businesses that regard making a meaningful contribution to the community as important are associated with higher levels of managerial innovation.

Alternative Hypothesis 11a²: Family businesses that regard making a meaningful contribution to the community as important are associated with higher levels of process innovation.

Alternative Hypothesis 11a³: Family businesses that regard making a meaningful contribution to the community as important are associated with higher levels of product innovation.

6.2.7.5. Creating jobs for the next generation

Table 6.30 presents the correlations between providing job opportunities to the next generation (Question 3.9) and the three measured types of innovation. The results indicate that there is a weak, positive but statistically significant correlation between the need to create jobs and managerial innovation ($r = 0.19$; $p = 0.04$), process innovation ($r = 0.26$; $p < 0.01$) and product innovation ($r = 0.18$; $p = 0.05$).

Table 6.30: The correlation between the need to create jobs for the next generation and innovation

	Variable 1	Variable 2	r	p-value
Hypothesis 12a ¹	Job creation	Managerial innovation	0.19	0.04
Hypothesis 12a ²	Job creation	Process innovation	0.26	<0.01
Hypothesis 12a ³	Job creation	Product innovation	0.18	0.05

These results present evidence that the need to create jobs correlated with a measure of higher innovation. Null Hypothesis 12a is subsequently rejected at a 5% significance level, in favour of the following alternative hypotheses:

Alternative Hypothesis 12a¹: Family businesses which indicated that they need to create jobs for the next generation are associated with higher levels of managerial innovation.

Alternative Hypothesis 12a²: Family businesses which indicated that they need to create jobs for the next generation are associated with higher levels of process innovation.

Alternative Hypothesis 12a³: Family businesses which indicated that they need to create jobs for the next generation are associated with higher levels of product innovation.

Higher levels of importance placed on the business contributing to the community, as well as the need to create jobs for the next generation were associated with higher levels of innovation. However, neither of these goals moderated the relationship between task conflict and innovation, as presented in Table 6.31 below.

Table 6.31: The moderating effect of community contribution and creating jobs for the next generation on the relationship between task conflict and innovation

Independent variable	Moderator	Dependent variable	Moderator Beta (std)	Interaction coefficient	R ² with interaction	R ² independent variable only	R ² change	p-value
Task conflict	Community contribution	Innovation	0.25	0.03	0,09	0.09	-0.001	0.73
Task conflict	Job creation	Innovation	0.23	-0.09	0.09	0.08	-0.01	0.34

In summary, this section about the non-economic goals provides evidence suggesting that non-economic family goals could significantly influence innovation. Of the measured non-economic family goals, a close link between the business and family identity had the strongest, statistically significant correlation with innovation (managerial innovation: $r = 0,31$, $p < 0.01$; process innovation: $r = 0.33$, $p < 0.01$; product innovation: $r = 0.21$, $p = 0.019$).

Furthermore, harmony as a non-economic family goal was the only non-economic family goal, which was a significant moderator, specifically in terms of the relationship between task conflict and managerial innovation. The potential practical implications of these findings are discussed in Chapter 7.

6.2.8. Sub-hypothesis 13: Relationship conflict

This section evaluates relationship conflict as a moderator of task conflict and innovation. The three different innovation types are evaluated separately, and relationship conflict is considered as a component of family influence. Refer to Section 3.5.8.

The moderating effects of relationship conflict between task conflict and the three different types of innovation are presented in Table 6.32.

Table 6.32: Relationship conflict as a moderator of task conflict and innovation

	Independent variable	Moderator	Dependent variable	Moderator beta (std)	Inter-action coefficient	R ² with interaction	R ² ind var only	R ² change	p-value
Hypothesis 13a ¹	Task conflict	Relationship conflict	Managerial Innovation	0.16	-0.22	0.09	0.05	-0.04	0.04
Hypothesis 13a ²	Task conflict	Relationship conflict	Process Innovation	0.02	-0.21	0.06	0.03	-0.03	0.05
Hypothesis 13a ³	Task conflict	Relationship conflict	Product Innovation	-0.09	-0.06	0.01	0.01	-0.00	0.55

The negative interaction coefficient indicates that the relationship between the independent variable and the dependent variable will become more “negative” as the level of the moderator increases. In the present study, the moderating role of relationship conflict is statistically significant in terms of the relationship between task conflict and managerial innovation ($p = 0.04$), as well as the relationship between task conflict and process innovation ($p = 0.05$). This is also reflected in the higher R² change figures, which suggest that the moderator has an influence on the respective relationships between the independent and dependent variables. Figure 6.5 presents the moderating influence of relationship conflict on the relationship between task conflict and managerial innovation. The red line represents businesses where relationship conflict was measured as high. In these cases, higher task conflict was associated with lower managerial innovation. Conversely, in businesses where relationship conflict was measured as low (represented by the blue line), higher task conflict was correlated with higher managerial innovation.

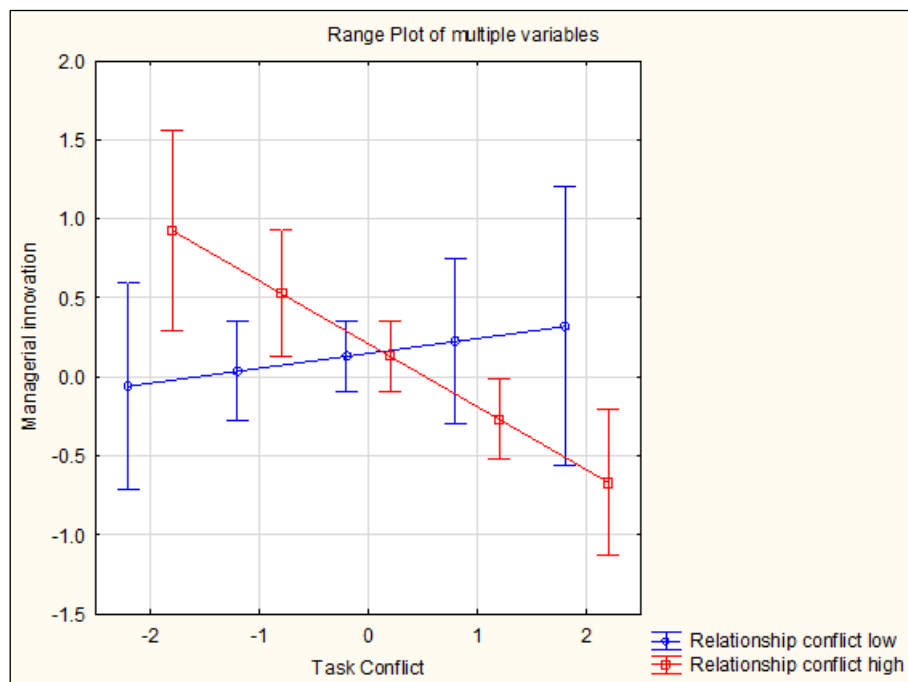


Figure 6.5: The moderating role of relationship conflict on the relationship between task conflict and managerial innovation

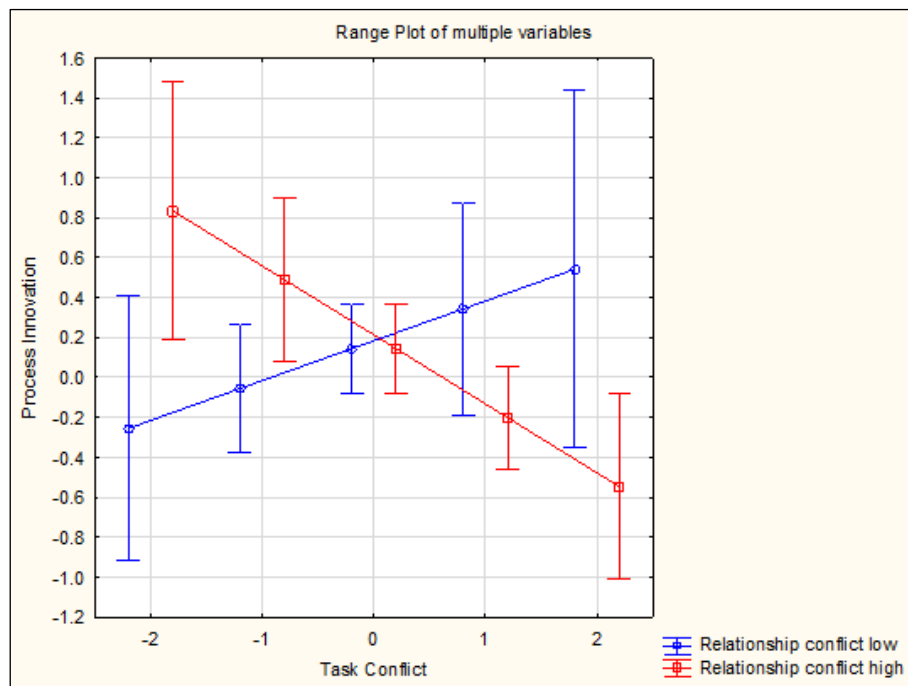


Figure 6.6: The moderating role of relationship conflict on the relationship between task conflict and process innovation

Figure 6.6 presents the moderating influence of relationship conflict between task conflict and process innovation. The same trend is presented as in the case of managerial innovation (refer to Figure 6.4). The red line represents businesses where relationship conflict was measured as high. In these cases, higher task conflict was associated with lower process innovation. Conversely, in businesses where relationship conflict was measured as low (represented by the blue line), higher task conflict was correlated with higher process innovation.

These results provide empirical evidence which suggests that relationship conflict is a statistically significant moderator of the relationship between task conflict and managerial innovation, as well as of the relationship between task conflict and process innovation. Hypotheses 13a³ cannot be rejected at a 5% significance level. Hypotheses 13a¹ and 13a² are, however, rejected at a 5% significance level in favour of the following alternative hypothesis:

Alternative hypothesis 13a¹: Relationship conflict moderates the relationship between task conflict and managerial innovation.

Alternative hypothesis 13a²: Relationship conflict moderates the relationship between task conflict and product innovation.

Null Hypothesis 13a³: Relationship conflict does not influence the relationship between task conflict and process innovation.

6.2.9. Summary of hypotheses testing

This section specifically responded to the outlined sub-hypotheses through correlation or moderation analyses. A summary of the findings of the sub-hypotheses are presented in Appendix I.

6.2.9.1. Family power

The number of family members on the management team did not significantly influence neither innovation nor conflict.

6.2.9.2. Experience

The results provide evidence that there is a weak, positive, but statistically significant correlation between process innovation and both business age and managing generation. Managerial innovation and product innovation were not significantly influenced by business age or managing generation.

6.2.9.3. Generation overlap: Management and ownership

Businesses with only one generation involved were compared with businesses with more than one generation involved in management. There were no statistically significant differences between the groups in terms of both process innovation and product innovation. The groups differed more in terms of managerial innovation, with the group representing businesses with two or more generations involved in management measuring lower managerial innovation, than the group with just one generation involved in management. However, this difference was not significant at a 5% significance level.

In order to investigate the influence of a generational overlap in terms of ownership dispersion, businesses with only one generation that owns the business were compared with businesses with more than one generation sharing ownership. There were no statistically significant differences between the groups in terms of managerial, process or product innovation. .

6.2.9.4. Generational overlap: Goal alignment

Higher levels of similar goals between generations are likely to be associated with higher levels of all three types of innovation. High levels of goal alignment are likely to be associated with lower levels of both task and relationship conflict. Similar goals across generations is, however, not a significant moderator of the relationship between task conflict and innovation.

6.2.9.5. Family essence: Intention to transfer the business to the next generation

The group that indicated that they intend to transfer the business to the next generation differed significantly from the one that indicated that they do not intend to transfer the business to the next generation, in terms of both process innovation and product innovation, but not in terms of managerial innovation.

The group that indicated that they intend to transfer the business to the next generation did not differ statistically from the group that indicated that they do not intend to transfer the business to the next generation, in terms of both relationship conflict and task conflict.

6.2.9.6. Family essence: Family commitment

Family commitment significantly influenced all three types of innovation. The results provide evidence that there is a weak, positive but statistically significant linear relationship between family commitment and managerial innovation, process innovation and product innovation.

In terms of family commitment and conflict, the results provide evidence that there is a moderate, negative and statistically significant linear relationship between family commitment and relationship conflict and a weak, negative and statistically significant relationship between family commitment and task conflict.

This study provides evidence suggesting that family commitment is a moderator of task conflict and process innovation and, to a lesser degree (non-significant), of managerial innovation.

6.2.9.7. Non-economic family goals: Family harmony

There is a weak, positive but statistically significant correlation between harmony as a family goal and managerial innovation, as well as product innovation and a moderate, positive correlation between harmony as a family goal and process innovation.

The study presents evidence that harmony as a non-economic family goal has a moderating influence on the relationship between task conflict and managerial innovation, but not process or product innovation.

6.2.9.8. Non-economic family goals: Social status

There is a weak, positive but statistically significant correlation between social status as a family goal and managerial innovation and a moderate, positive correlation between social status as a family goal and process innovation. The correlation between product innovation and social status as a family goal was very weak and not statistically significant. Social status as a non-economic family goal was not a statistically significant moderator of the relationship between task conflict and innovation.

6.2.9.9. Non-economic family goals: The link between the business and family identity

There is a moderate, positive but statistically significant correlation between a close link between the business and the family's identity and managerial innovation, as well as process innovation and product innovation. Having a close link or not between the identity of the family and business was not a statistically significant moderator of the relationship between task conflict and innovation.

6.2.9.10. Non-economic family goals: Community contribution

There is a weak, positive, but statistically significant correlation between the business making a meaningful contribution to the community and managerial innovation, process innovation and product innovation. The importance of making a meaning contribution to the community did not significantly moderate the relationship between task conflict and innovation.

6.2.9.11. Non-economic family goals: Creating jobs for the next generation

There is a weak, positive but statistically significant correlation between the need to create jobs and managerial innovation, process innovation and product innovation. The importance of creating jobs for the next generation did not significantly moderate the relationship between task conflict and innovation.

6.2.9.12. Relationship conflict

The results provide evidence which suggests that relationship conflict is a statistically significant moderator of the relationship between task conflict and managerial innovation, as well as of the relationship between task conflict and process innovation.

This section utilised empirical results to respond to research hypotheses. In Chapter 7, these results are discussed in terms of literature and practical implications for the wine industry. The empirical results suggested that family commitment specifically plays a significant role in terms of correlation with innovation and conflict, as well as a moderating influence between conflict and innovation. The role of family commitment as an important dimension of family essence is now further examined through a PLS-SEM.

6.3. PLS-SEM OF CONFLICT, FAMILY COMMITMENT AND INNOVATION

The previous section directly responded to the respective sub-hypotheses in terms of the correlation or moderation of measured constructs and single-item measures. This section follows with greater scrutiny of the moderators, in terms of the interaction and influence of family commitment as a moderator of conflict and innovation. Refer to Section 4.9.2.7 for a discussion of the final model which was used as framework for the PLS-SEM. Section 4.10.4 discusses structural equation modelling and explains the method by Hair, Hult et al. (2014), which was applied in the present study.

By analysing the moderating effect of family commitment, this PLS-SEM aims to build on the moderator analyses of family essence by further scrutinising the role of family commitment. Combined, these analyses robustly respond to the main hypothesis of the present study, with particular reference to family commitment as a dimension of family essence. The PLS-SEM investigates the influence of family commitment, task conflict and relationship conflict, as well as the interaction between the respective constructs.

Moderating influence is generally modelled by creating a new variable that is the product of the variable that is being moderated (X) and the variable that is moderating (M). This interaction term (XM) is then entered into the regression equation after the linear main effects on the outcome (Y) of the moderating (M) and moderated variables (X) have been estimated. If the effect of XM is significant, then the effect of X on Y is dependent upon the levels of M (Little, Card Bovaird, Preacher & Crandall, 2007). In the present study, the “new variables” that were created are the products of task conflict and family commitment, as well as the products of relationship conflict and family commitment (refer to the green circles in Figure 6.7).

Figure 6.7 presents a graphical model of the PLS-SEM. The blue circle at the centre of the model represents the combined innovation scale. The surrounding black arrows represent path-coefficients, which indicate the influence of the relevant variables in the surrounding blue and green circles. The outer blue circles represent the variables, comprising task conflict, relationship conflict and family commitment. Lastly, the green circles indicate the influence of the interaction terms of family commitment and task conflict, as well as the interaction term of family commitment and task conflict on innovation. The interaction terms are therefore relevant in terms of studying the moderating effect of constructs. R^2 is a measure of the model’s predictive accuracy (Hair et al, 2014). Hair et al. (2014) proposed that scholars must rely on a “rough” rule of thumb regarding an acceptable R^2 . The R^2 value of the inner model is 0.143, is regarded as a weak level of predictive accuracy (Hair, Hult et al., 2014). The different constructs are now evaluated in further detail.

The numbers noted in the black arrows that point towards this circle indicate path coefficients, a standardised regression coefficient, indicating the direct effect of an independent variable on a dependent variable in the path model. Path coefficients represent the hypothesized relationships linking the constructs (Hair et al., 2014). The thickness of the path coefficient arrow is linked to the strength of the influence on innovation. The higher the path coefficient is, the more significant the impact of the individual aspect concerned in terms of innovation. In the present study the interaction term between task conflict and family commitment had the most significant impact on innovation.

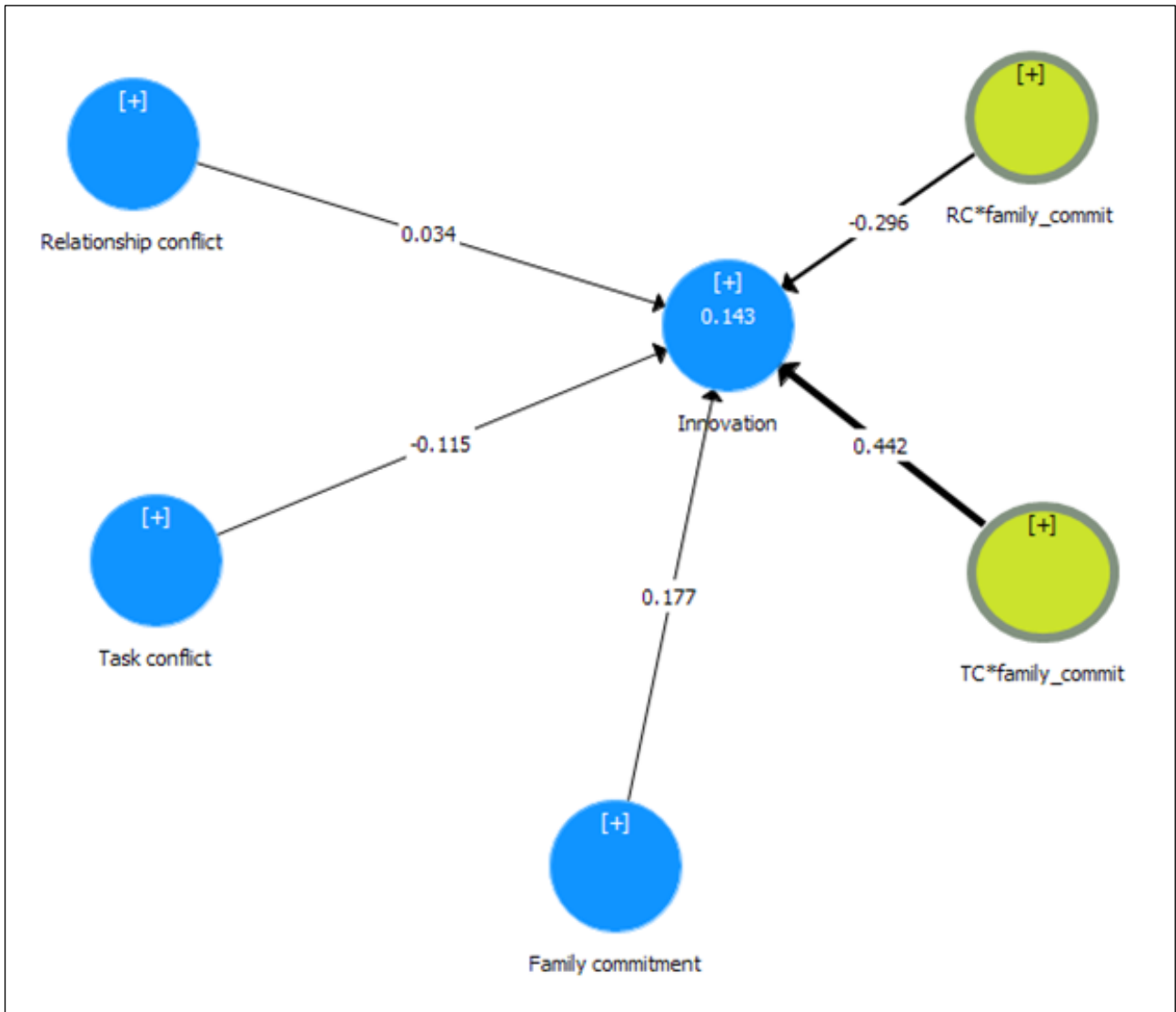


Figure 6.7: Graphic model: PLS-SEM of family commitment, conflict and innovation

Table 6.33 presents the concerned path-coefficients and their confidence intervals. The following section discusses these results.

In Table 6.33, the first column indicates the relevant path that is investigated. The next column presents the path coefficient, followed by an indication whether the path coefficient is significant from the 95% confidence interval. The last column indicates p-values as an indication of statistical significance. Significance in PLS-SEM can be evaluated in two ways. Firstly, if zero lies within the 95% confidence interval, the path coefficient can be interpreted as being significant. Secondly, the p-value from the T-test can be evaluated. If a path coefficient is significant from CI, with a p-value from the T-test which is larger than 0.05, the result is marginal and should only be reported as a possible trend. This is the case for the family commitment – innovation path in Table 6.33.

Table 6.33: Path coefficients of the family commitment model

	Path coefficient	Mean (M)	2.5%	97.5%	Significant from CI	p-value from T-test
Family commitment -> Innovation	0.177	0.219	0.023	0.414	Yes	0.10
RC*family commitment -> Innovation	-0.296	-0.248	-0.588	0.095	No	0.08
Relationship conflict -> Innovation	0.034	0.038	-0.287	0.354	No	0.84
TC*family commitment -> Innovation	0.442	0.387	0.046	0.725	Yes	0.01
Task conflict -> Innovation	-0.115	-0.127	-0.436	0.185	No	0.47

The interaction between task conflict and family commitment significantly influenced innovation. This is reflected by the highest path coefficient (0.442), as well as the lowest p-value ($p < 0.01$). This result supports the finding of Hypothesis 7c² in Section 6.2.6, which suggested that family commitment moderates the relationship between conflict and process innovation.

In terms of the relationship between relationship conflict and family commitment, a negative path coefficient would indicate an inverse effect (Olobatuyi, 2006: 134). It can therefore be implied that, unlike in the case of task conflict, the interaction between relationship conflict and family commitment did not positively impact the role of relationship conflict. This finding was however not significant ($p = 0.08$), as the path coefficient was not significant, based on the confidence interval.

6.4. SUMMARY

This chapter responded to the main hypothesis by assessing the impact of different aspects of family influence (family management involvement, family experience, intention of generational succession, family commitment, generational overlaps, non-economic family goals and relationship conflict) in terms of conflict and innovation. This was based on the research framework presented in Figure 3.1. The results comprised ANOVA tests and analyses of the correlation and/or moderation between the research constructs. In cases of significant moderation or correlation, plot charts were presented to further demonstrate findings. A summary of the responses to the hypotheses was presented in Appendix I.

Building on these findings, the second section focused on the moderating effect of family conflict on conflict and innovation, further scrutinised the moderating role of family commitment by means of a structural equation model. This PLS-SEM provided further insight into the influence of task conflict and relationship conflict, family commitment, as well as the interaction between these constructs on innovation.

This chapter has provided empirical evidence pertaining to the role of family influence on innovation and conflict, as well as the moderating role of dimensions of family influence in the relationship between conflict and innovation. The next and final chapter discusses the practical and theoretical implications of these findings in conjunction with the theory presented in Chapter 2.

CHAPTER 7

PRACTICAL IMPLICATIONS AND CONCLUSIONS

7.1. INTRODUCTION

This chapter evaluates whether the objectives of the study (refer to Section 1.4.4) have been met. This is done by providing interpretations of the research results, based on the empirical findings as described in the preceding chapters, postulated in conjunction with the theory presented in Chapter 2. The chapter starts with an overview of the study, key literature, the study methods applied, validity and reliability. This is followed by an overview of the results based on the research framework in Section 3.3 and a synopsis of key academic findings and practical implications to the South African wine industry. Limitations are noted and opportunities for future research are highlighted.

7.2. OVERVIEW

7.2.1. Literature review

The literature review in Chapter 2 started with an overview of the South African wine industry, as well as an overview of family business research in the wine industry. Family businesses account for the majority of South African wine industry businesses (Brundin & Wigren-Kristoferson, 2013). Family influence takes on unique meaning in the wine industry, because the product is strongly linked to the family, its history, experiences and the people who have handed down both the family name and the business (Gallucci & D'Amato, 2013: 186). Similarly, the wine industry is characterised by a specific balance between upholding tradition and driving innovation (Brundin & Wigren-Kristoferson, 2013; Vrontis et al., 2016). It can therefore be argued that the wine industry provides a relevant and interesting opportunity to study family influence, particularly in terms of innovation. Morton and Podolny (2002) identified evidence that wine industry family business owners present strong non-financial motivation, with family influence being viewed as an important element of differentiation and that the role of the family was reflected both in terms of production and branding (Gilinsky et al., 2008).

This overview was followed by an impression of the field of family business research, including a discussion on some of the fundamental theories that underpin family business research and the hypotheses set out in this study. Socio-emotional family wealth was particularly relevant in terms of this study. Socio-emotional family wealth has been described as the motivation by, and committed to, "the preservation of socio-emotional wealth, referring to non-financial aspects or 'affective endowments' of family owners" (Berrone et al., 2012: 259). The socio-emotional wealth theory underpins this study, because it supports the proposed impact of family influence in terms of the intention of transgenerational succession, family commitment and non-economic family goals (refer to Section 7.5.2).

Aspects of family influence (most notably family essence), such as non-economic goals (Chrisman et al., 2015; Hauck & Prügl, 2015), long-term orientation (Bergfeld & Weber, 2011), rooted in socio-emotional wealth (Souder et al., 2016), were argued to significantly impact innovation in family businesses. Similarly, commitment in terms of long-term investment (Konig et al., 2013) was highlighted as a potential differentiator in terms of family business innovation.

The present study posits that the unique attributes of specifically family essence could yield an environment where particularly task conflict could be beneficial to innovation. Attributes of family influence, such as commitment (Corbetta & Salvato; 2004), could lead to a relatedness, which enhances autonomy, trust and collectivism, resulting in a stronger innovation-supportive stewardship culture (Bammens et al., 2010). This is argued to prevent potentially beneficial task conflict from becoming harmful relationship conflict (Ensley et al., 2002), resulting in a unique family context of the management and application of task conflict.

The study therefore argues that, if high family commitment is conducive to innovation – through the benefits of innovation-supportive stewardship (Bammens et al., 2010), enhanced autonomy and flexibility (Zahra et al., 2008) and pro-organisational helping behaviours (Eddleston et al., 2008) – internal family dynamics, such as conflict, might be of minor relevance or even an advantage, as long as the capability to innovate is maintained over the long term (Bergfeld & Weber, 2011).

Secondly, if higher family commitment prevents task conflict from spilling over into negative relationship conflict (Ensley et al., 2002), the potential benefits of task conflict, such as seeing multiple perspectives (Cosier & Dalton, 1990) and making better decisions (Simons & Peterson, 2000) could come to fruition, further enhancing innovativeness.

In order to scrutinise the proposed moderating effect of family influence between conflict and innovation, a research framework was developed (refer to Section 3.3), based on existing scholarly literature. Hypotheses were subsequently developed, and the research design and methodology were formulated to respond to these hypotheses.

7.2.2. Research objective and methodology

The focal point of this study was to investigate the impact of family influence on the relationship between conflict and innovation in the South African wine industry. Based on a literature review, the study proposes that family influence impacts the relationship between conflict and innovation in family businesses and, more specifically, that dimensions of family influence moderate the relationship between conflict and innovation.

In order to scrutinise the relationship between the three key aspects of this study (family influence, innovation and conflict), a conceptual research framework was developed, based on family business scholarly literature. The research framework formed the base of the hypotheses that were subsequently developed.

In order to respond to the proposed set of hypotheses, a large-scale survey was conducted. This study was done in the positivistic tradition, involving quantitative and objectivist methods. Reliable and valid items measuring innovation, conflict and dimensions of family influence were adopted from validated measurement instruments, developed in previous studies. A questionnaire was developed, comprising a combination of the relevant measures. The present study's questionnaire was evaluated by a panel of experts and the validity and reliability of the measures were assessed in the context of the South African wine industry. The questionnaire was distributed by email to the management teams of 485 private wineries, based on the 2015/16 South African Wine Industry Directory (SAWID) database. A total of 145 valid and useable surveys, representing 118 businesses, met the criteria of participation. A total of 77.24 percent ($n = 112$) of responses were from family members, with 33 non-family members, who are at least at top management level, representing the remainder. Responses to each multi-item scale provided by family members did not significantly differ from those provided by non-family members and both respondent types were included in further analyses.

In response to the listed hypotheses, correlation and moderation of key constructs were assessed. Over and above these assessments, a PLS-SEM was developed to further analyse the influence of family commitment on innovation, including the moderating role of family commitment in terms of conflict. In the next section, the interpretations of these findings are discussed in detail.

7.3. INTERPRETATION OF EMPIRICAL FINDINGS

The results of the present study are discussed here in terms of existing scholarly literature, in the context of the South African wine industry. The findings are presented, based on the conceptual research framework presented in Section 3.3.

7.3.1. Family power

The participation of more family members in the management of the business was argued to lead to greater diversity of perspectives (Kellermanns & Eddleston, 2004), and family members were better equipped to identify and understand the challenges and opportunities that face the company (Zahra, 2005). The participation of more family members in the management team was also argued to lead to conflict (Davis & Harveston, 1999; Dyer, 2010; Steward, 2017).

It could therefore be argued that more family members on the management team of the business could lead to both higher levels of innovation and conflict, based on robust decision-making, with diverse opinions and a good understanding of the challenges. The results of the present study, however, indicated that there was no significant relationship between the number of family members on the management team and innovation or conflict.

Even though the results relating to conflict were not statistically significant ($p > 0.05$), businesses with more than four family members in management presented the highest levels of both relationship conflict and task conflict. It could be argued that perceived negative influences of family member management involvement (Steward, 2017), becomes relevant when many family members (more than four) are involved in the management. This could be ascribed to the negative effects of nepotism (Dyer, 2010; Sciascia & Mazzola, 2008), which could also be argued to negatively influence innovation (Miller et al., 2015) where a very large number of family members are involved in the business's management.

In terms of the number of family members on the management team and innovation, it could be argued that the absence of non-family members could have impacted the result. Non-family managers can bring to family businesses knowledge and expertise (Gedajlovic et al., 2004) that may not be readily available within the family (Miller et al., 2013). Non-family managers are also likely to come from more diverse backgrounds (Nicholson, 2008), and are therefore likely to contribute new ideas. As argued by Baykal (2019), when there are only family members on the management team, groupthink may occur; resulting in excessive conformity, preventing innovativeness (Brockman et al., 2010).

A study by Miller et al. (2015) cited a wine-related eleventh-generation wine producer based in the Burgundy region of France. Current CEO, Louis Latour, indicated that "when you start to have a lot of family members, it is difficult to have [talent] from outside to come in". The expected increase in innovation due to diversity of perspectives (Kellermanns & Eddleston, 2004) and family members being better equipped to identify and understand the business's challenges and opportunities could therefore conversely be nullified, because family management limits the possibilities related to appointing external talent.

7.3.2. Family experience

The present study suggests older and later-generation businesses in the wine industry are associated with higher levels of specifically process innovation. Because process innovation is strongly related to technology and equipment, which require significant capital investment, it can be argued that older businesses are better established and capable of investing in advanced technology. Since the winemaking process can take 20 years or more from planting the vine to selling the wine, it can be argued that a long-term approach is necessary for investing in winemaking and viticulture technologies. The combination of a long-term view and sufficient resources can be argued to increase possibilities of higher levels of process innovation and this was more likely to be found in later generation, older family businesses.

It can be argued that wine businesses need to reach a certain stage before the business is at an established stage, whereby process innovation can be applied through advanced technology and training. In the case of wine production, process innovation entails technology (refer to Questions 4.6 and 4.10) and equipment (refer to Question 4.7), which requires investment. Examples of process innovation includes vineyard mechanisation (Rieger, 2017), which requires both significant capital investment, as well as a minimum vineyard size to be economically viable (Le Roux, 2009). It could therefore be argued that older and later-generation businesses are able to invest in process innovation, because they are better established and therefore, financially able to invest in technology and equipment, which enables process innovation. Furthermore, it can be argued that later-generation family businesses benefit from tacit knowledge that has been transferred over generations (Jaskiewicz et al., 2017; Woodfield & Husted, 2017), resulting in a greater focus on enhanced efficiency (Question 4.9) and a deeper understanding, which specifically enables process innovation, which specifically through knowledge, training and technology.

This finding is supported by the study by Cruz and Nordqvist (2012) which suggested that technological opportunities drive innovation more strongly in later-generation family businesses than in first-generation family businesses and that managers from succeeding generations tend to increase a family firm's ability to analyse the competitive environment.

Conversely, the influence of business age on managerial innovation and product innovation was not statistically significant. In the case of managerial innovation, it can be argued that management's approach to new ideas (Questions 4.1 and 4.3) and their perception of innovation (Question 4.4) do not require the same level of investment as process innovation.

There are indeed contradicting views on the impact of the experience dimension that suggest that both early-generation and later-generation businesses present higher levels of managerial innovation. For instance, some early-generation family businesses could benefit from high levels of trust and consensus, which facilitate idea generation (Questions 4.1 and 4.3) and realisation (Bammens et al., 2010). Similarly, Block (2012) argued that earlier-generation family businesses are characterised by a more thorough understanding of the business than later-generation family businesses. Thus, earlier-generation family businesses should be more likely to use their resources for innovation projects. However, in other businesses, the involvement of succeeding generations in ownership and management could promote a family business's risk taking and innovation (Zahra, 2005), whereby successors can contribute new knowledge to their family businesses, facilitating the identification of innovation. Mixed findings about the impact of business age and managing generation confirm the heterogeneity of family businesses (Hillebrand, 2018) in terms of the relationship between the managing generation and innovation.

While it can be argued that product innovation can be as costly as process innovation, the product innovation scale relates more to aspects such as risk (Question 4.12), change (Questions 4.11 and 4.13), and being first to introduce a new product (Question 4.14), which do not necessarily require the same capital investment as process innovation. Furthermore, it can be argued that younger wine businesses are still developing their product portfolio, while older businesses are likely to have an established portfolio.

The study found that there was not a linear relationship between family experience and conflict. This could possibly be explained by unique cycles of family businesses (Morris et al., 1997), which are influenced by family changes in the natural cycle of life, with the occurrence of marriages, births, perhaps divorces and deaths (Rhodes & Lansky, 2013). These occurrences are likely to influence relationships and conflict and are not necessarily predictable in terms of business life cycles.

7.3.3. Generational overlap

The impact of a generational overlap was evaluated, both in terms of ownership and management. Businesses with only one generation involved in management were compared with businesses with more than one generation involved in management, in terms of innovation (all three types) and conflict (both types). Similarly, businesses with only one generation owning the business were compared to those where ownership was dispersed between generations.

Critical junctures, such as during intra-family leadership transitions, are posited to increase the intensity of the bargaining process used to achieve goal consensus and could yield unique circumstances for innovation (Hauck & Prügl, 2015: 104). Generational involvement is associated with higher levels of conflict (Kellermanns & Eddleston, 2004) and according to Kellermanns et al. (2012) task-related conflicts could benefit innovation.

Although a trend was identified that managerial innovation was associated with more generations involved in management, this result was marginal. The present study therefore yielded no significant differences between businesses managed or owned by one generation and those where ownership or management was shared between two or more generations. Generational ownership therefore did not significantly influence conflict or innovation in these businesses. A total of 42% (n = 49) of the businesses that participated in the study were first-generation businesses, where a generational overlap in terms of management or ownership was not possible. Although another 42% of the businesses indicated that management was shared between two generations, this is largely compared to the first-generation businesses.

Hoy (2006) suggests that the ownership structure family businesses is likely to mirror the developmental stage of the business. Consolidated ownership typically resides with one generation and ownership is usually held by the founder or a married couple – indicative of a business in the early stages of its life cycle. Conversely, high dispersion of ownership indicates ownership control by multiple family branches. When ownership control is held by multiple generations, the firm is likely

in a later stage of development. This developmental stage is also likely to influence innovation in terms of family experience (refer to Section 7.3.2).

Chirico et al. (2011) suggested that coordination is needed to unlock the potential of generational involvement. These authors proposed that both conflict and innovation will be influenced by whether the family implements a participative strategy through consensus seeking, versus autocratic processes by the formally responsible manager. According to Chirico et al. (2011), when family members across generations are expected to voice their heterogeneous perspectives, it enables constructive task conflict, while reducing relationship conflict. By encouraging family members to voice their input, misunderstandings and other frustrations are reduced, while commitment is fostered. It can therefore be argued that generational management alone does not predictably influence conflict and innovation and that heterogeneous results could be a result of how the different generations participate in decision-making.

7.3.3.1. Goal alignment

Similar goals between different generations are posited to facilitate the conversion of intergenerational strategy involvement into innovation pursuits (De Clercq & Belausteguigoitia, 2015), while incompatible goals are associated with negative effects and conflict (Cheng et al., 2007).

These observations from literature were supported by the results of the present study, with goal alignment between generations being associated with higher levels of all three innovation types. Of the three types of innovation, process innovation presented a stronger, positive linear relationship with similar goals between generations. With process innovation relating to technical innovation (refer to Questions 4.6 and 4.7) and skills development (refer to Question 4.10), the correlation between similar goals between generations and process innovation could relate to knowledge transfer and sharing between generations (Trevinyo-Rodriguez & Tapies, 2010; Woodfield & Husted, 2017).

High levels of generational goal alignment were also associated with lower levels of both task and relationship conflict. However, the moderating role of goal alignment on the relationship between task conflict and the three different innovation types was not statistically significant. There is a school of thinking which posits that diversity of perspectives (Kellermanns & Eddleston, 2004) could stimulate task-related constructive conflicts (Kellermanns et al., 2012), which could yield unique circumstances for innovation (Hauck & Prüggl, 2015: 104) or reformulate a business's direction and renew its energies (Lansberg, 1999). When goal cohesion is too high, it can also hamper the family business's ability to capitalise on the heterogeneous opinions of family members, insulating members from outside influences, leading to groupthink and conformity (Zahra, 2012), and reducing healthy debate (Sundaramurthy & Kreiner, 2008). It could therefore be argued that lower conflict based on similar goals does not necessarily yield higher innovation, especially radical innovation

whereby the business's direction is changed. It is therefore not surprising that similar goals do not necessarily moderate the relationship between task conflict and the three innovation types.

7.3.4. Family essence

7.3.4.1. Intention to transfer the business to the next generation

The intention to transfer the business to the next generation was associated with significantly-higher levels of both process and product innovation, supporting existing literature which highlights the influence of the intention of generational succession (Habbershon & Williams, 1999; Nicholson, 2008). Because socio-emotional benefits are relevant only if the family maintains transgenerational control (Zellweger et al., 2011), the intention for transgenerational succession cause family members to guard the well-being of the business as a family business (Arregle et al., 2007). Fitz-Koch and Nordqvist (2017) suggested that family bonds with the business are renewed through succession and that the capability of continuous alignment and realignment facilitates the intention of handing the business down to future generations and fosters a long-term investment strategy.

Both process and product innovation entail long-term processes and investment and the intention to transfer to the next generation can be argued to indicate longer investment cycles, which span over generations (Konig et al., 2013), as well as a family long-term orientation (Bergfeld & Weber, 2011). It could subsequently be argued that process and product innovation are part of "priorities, goals and concrete investments that come to fruition over an extended time period" (Miller & Le Breton-Miller, 2006: 732), and therefore are attributes of a long-term orientation. In the case of the wine industry, a new vineyard will generally only produce its best fruit for high quality wine after ten to 15 years. The introduction of a new product could subsequently take place across generations, highlighting the importance of a transgenerational vision. The relevance of a long-term orientation, across generations, on process innovation can also be argued to relate to the capital investment associated with investment in technology (Le Roux, 2009).

Managerial innovation, which was not significantly influenced by the intention of generational succession, can be argued to be a more short-term aspect of innovation, that leads to more immediate results than both process and product innovation. Managerial innovation relates to management's approach to new ideas (Question 4.1) and how innovation is perceived (Question 4.4) and rewarded (Question 4.5). Unlike process and product innovation, these relate to organisational culture aspects that do not necessarily require long investment horizons. The long-term view associated with intergenerational succession was therefore not as relevant in terms of managerial innovation.

In the present study the intention to transfer the business to the next generation did not significantly influence either relationship or task conflict. It can be argued that businesses with high levels of conflict are inclined to be less likely to transfer the business to the next generation. Furthermore, based on socio-emotional wealth, it can be argued that binding social ties among family members are strengthened with the intention to transfer the business to the next generation and that succession intention is not necessarily associated with higher levels of conflict.

The present study contributes to the understanding of internal socio-emotional wealth, particularly in terms of family continuity. The present study supports the suggestion by Fitz-Koch and Nordqvist (2017) that the intention to transfer the business to the next generation is associated with higher levels of innovation and fosters a long-term orientation.

7.3.4.2. Family commitment

The relevance of family commitment in terms of its role in innovation and conflict was a key finding of the present study. Higher levels of family commitment were associated with higher levels of managerial, process and product innovation and lower levels of relationship and task conflict. Furthermore, the results of the present study provide empirical evidence suggesting that family commitment is a moderator of the relationship between task conflict and process innovation. This finding was further evaluated and supported through the PLS-SEM.

An investigation into the effect of family commitment as a moderator of the relationship between task conflict and innovation, suggests the relationship between task conflict and process innovation will become “more positive” as the level of the moderator increases. Therefore, at high levels of family commitment, higher levels of task conflict will be associated with higher levels of process innovation. Conversely, at low levels of family commitment, higher levels of task conflict are associated with lower levels of process innovation.

This finding was supported by the PLS-SEM. The strong, positive path-coefficient of the interaction term of task conflict and family commitment highlights the relevance of the moderating effect of family influence on the relationship between task conflict and innovation. This interaction term was the only significant pathway coefficient in the model, which highlights that the interaction of task conflict and family commitment, had a greater impact on innovation than the individual pathway coefficients of task conflict and family commitment.

This finding supports the argument that high levels of commitment are conducive to task-related constructive conflicts (Kellermanns et al., 2012), which can enhance innovation. High levels of family commitment are posited to advance an environment and culture conducive to task-related, constructive conflicts. This includes a relatedness, which enhances autonomy, trust and collectivism (Corbetta & Salvato; 2004), the sense of mutual interdependence and reciprocal altruism that promote helping behaviours (Eddleston et al., 2008), and strategic flexibility (Carnes & Ireland, 2013; De Massis et al., 2015).

The following section discusses the significant moderating role of family commitment by considering the impact of family commitment on innovation (more specifically, process innovation), in terms of a long-term orientation, as well as flexibility and formal controls.

Family businesses often prefer incremental innovations rather than radical innovations, because they tend to select modest innovation strategies that are less likely to challenge family financial and managerial control (Classen et al., 2014; De Massis et al., 2013). Incremental innovation refers to the fact that existing processes are slightly adjusted to existing knowledge. This is particularly relevant in the wine industry, where the process of fermenting grapes to produce wine is seldomly radically influenced, but rather adjusted through long-term process innovation to improve quality or save costs. This could explain why process innovation was specifically moderated by family commitment. It could be argued that the wine industry presents examples of persisting innovations, whereby innovations are characterised by cumulative effort and long-term rewards, associated with high levels of commitment (Diaz-Moriana et al., 2018). Persisting innovations were specifically associated with new technologies, new processes and new partnerships and acquisitions..

The present study's findings about family commitment are supported by those of Li and Daspit (2016), which suggested that an extended socio-economic perspective provides motivation for long-term commitment. As a result, businesses that present family commitment pursue long-term innovation goals that capture longer-term payoffs. A long-term orientation (Bergfeld & Weber, 2011) is noted to be an encouragement for innovation that does not necessarily yield short-term returns (Craig & Dibrell, 2006). This is particularly relevant in terms of the extended production times and subsequently the slow return on investment in innovation in the wine industry – particularly in terms of process and product innovation. A key example of this is the introduction of “new varieties” (Goode, 2014) and styles (Joubert, 2018) into the South African industry by family businesses. The afore-mentioned studies are wine industry-specific examples of innovation by family businesses, that have had a major impact on the South African wine industry.

Miller and Le Breton-Miller (2006: 732) suggested that long-term goals might involve achieving innovation leadership. The type of innovation may also be influenced by a long-term orientation, with Bhide (2000) highlighting that innovation requires long-term investment due to the long lead times associated with successful implementation. Radical innovations typically only come to fruition after significant periods of a decade or longer (Leifer et al., 2000), but have a bigger industry impact.

Miller and Le Breton-Miller (2005) commented that family owner-managers have solid job security and less pressure to produce short-term pay-offs than managers of non-family businesses. Family members can therefore take the risk of investing in new wine styles or varieties, with a lower risk of losing their jobs. It could be argued that long-term job security and investment (made possible through commitment to a family business) could be beneficial for radical innovation.

In terms of conflict, Bergfeld and Weber (2011) noted that internal family dynamics (such as sibling rivalry and nepotism) might be of minor relevance, as long as the capability to innovate is maintained over the long term. A long-term orientation could therefore promote innovation, but also seems to potentially supersede causes of relationship conflict or the possibility that task conflict escalates into detrimental relationship conflict. It could be argued that higher family commitment should also lead to a long-term orientation, which influences the innovativeness of a business, as well as the impact of conflict.

The moderating effect of family commitment was most significant on the relationship between task conflict and process innovation (which includes investment in technology, equipment and training of people and can be regarded as a long-term form of innovation). This finding further supports the proposal that the moderating influence of family commitment on the relationship between task conflict and process innovation, could be explained through a long-term orientation, since investing in innovation enhances a business's likelihood of long-term survival (Esteve-Pérez & Mañez-Castillejo, 2008).

The present study's findings can also be explained by the suggestion that family commitment can reduce the need for formal controls (also known as agency costs), benefitting the business's ability to innovate (Corbetta & Salvato, 2004; Zahra & Sharma, 2004; Zahra et al., 2008;).

Commitment to the family business leads to an environment of trust and a strong familial bond in the family business, resulting in a reduced need for formal controls. Zahra et al. (2008) suggested that a family business's culture of commitment to the business is positively associated with the ability to pursue new opportunities and that a stewardship-oriented organisational culture is positively moderated by the family commitment-strategic flexibility relationship. Family involvement could lead to more flexible decision-making processes and structures (Craig & Dibrell, 2006) necessary to respond to opportunities. A key example of flexible decision-making is Van Loveren in the Robertson wine region. Van Loveren has adapted rapidly to market demand by introducing new products, based on market trends such as Polyethylene terephthalate (PET) packaging, low alcohol wines and even wine spritzers (Heyns, 2015).

It could be argued that a stewardship culture (when family business leaders choose goals based not on the leaders' self-interests, but based on what is best for family members) could explain the moderating effect of family commitment between task conflict and innovation. The link between stewardship and innovation has been recognised in various family studies (including Bammens et al., 2010; Zahra et al., 2008). Stewardship theory particularly highlights goal correspondence between owners and managers (Davis et al., 1997), which requires fewer checks, controls and even incentives. Refer to Section 7.5.1.

7.3.4.3. Non-economic family goals

Based on the reliability analyses (refer to Section 4.9), the non-economic family goals and social goal items should rather be evaluated individually. The proposed non-economic goals scale was evaluated as individual items and was not included in the structural equation model. The three non-economic goals from the scale adopted from Chrisman et al. (2012), as well as community contribution and job creation as non-economic family goals are discussed individually in the following sections (a) to (e).

a) Harmony as a family goal

The present study investigated the role of harmony as a family goal, and not harmony itself, on innovation. This study provides evidence that suggests that harmony as a family goal could be associated with higher levels of innovation (refer to Table 6.23). Family harmony as a non-economic goal was also identified as a moderator of the relationship between task conflict and managerial innovation (refer to Table 6.24).

Harmony as a non-economic family goal specifically moderated the relationship between task conflict and managerial innovation, which relates to the way innovation (Question 4.4) and new ideas (Question 4.1) are perceived and rewarded (Question 4.3 and Question 4.5). When family harmony is regarded as an important goal when making business decisions, higher levels of task conflict will be associated with lower levels of managerial innovation. Conversely, when family harmony is not regarded as an important goal when making business decisions, higher levels of task conflict will be associated with higher levels of managerial innovation.

The potential limiting influence of harmony as a family goal could relate to the preservation of their socio-emotional wealth – specifically in terms of preserving binding social ties among family members (Berrone et al., 2012) and emotional attachment of family members (Gómez-Mejía et al., 2013). Through the desire to retain harmony, socio-emotional family wealth could make family businesses more conservative in terms of risk and change (Hall, Melin & Nordqvist, 2001) – particularly at higher levels of task conflict, when the social ties between family members are potentially negatively affected by task conflict. Refer to Section 7.5.2 for a discussion of the contributions of the present study in terms of socio-emotional wealth theory.

It could be argued that in an environment where harmony as a family goal is overly emphasised, family members would become risk averse and not seek to develop new ideas or reward innovative ideas, when there are higher levels of task conflict. Similarly, it could be argued that the very environment that is promoted by family commitment – notably relatedness, autonomy, trust and collectivism (Corbetta & Salvato, 2004) and a sense of mutual interdependence (Eddleston et al., 2008) – is stifled when harmony is overtly emphasised as a family goal. This could ultimately inhibit strategic flexibility (Carnes & Ireland, 2013; De Massis et al., 2015) and increase risk averseness and an unwillingness to change (Eddleston et al., 2012).

It could be argued that family businesses that do not view harmony as an important family goal were better able to benefit from the potential advantage of task conflict (such as decision-makers seeing multiple perspectives), to avoid hazardous decisions and to promote innovative thinking (Cosier & Dalton, 1990) and better decisions, because task conflict encourages greater cognitive understanding of the issue being considered (Simons & Peterson, 2000). Without focusing too much on retaining harmony as a family goal, unique aspects of family businesses would apply. This includes the ability of family members to express themselves more freely (Nicholson, 2008) and familial ties that allow family members to express both positive and negative feelings in the business (Efendy et al., 2013).

The present study therefore provides evidence of a unique balance that needs to be maintained between managing task conflict so that it does not escalate to relationship conflict, without stressing harmony as a family goal to the extent that it eventually hampers innovation at higher levels of task conflict. These family-specific findings suggest that the unique challenges of family conflict itself form part of family influence, which distinguishes family businesses from their non-family counterparts and is rooted in socio-emotional family wealth.

b) Social status

Social status is of particular relevance in the wine industry, where wine producers' status and social order have been posited to influence winemaking (Benjamin & Podolny, 1999), pricing (Morton & Podolny, 2002) as well as investment decisions (Overton & Banks, 2015), in some cases even ahead of profits. The desire to maintain a positive image, is reflected by the family's need to preserve both the family and the business reputation and the social status of the family in the community (Berrone et al., 2010; Binz et al., 2013; Binz et al., 2017).

The present study provides evidence suggesting that social status as an important factor when making business decisions (refer to Question 3.6), is correlated to both managerial and process innovation (refer to Table 6.25). The correlation with process innovation was the strongest. This could be explained by the status and social standing in the winemaking community, that could result from investing in new technology. Examples of this in the wine industry include investing in the latest bottling equipment or vineyard mechanisation machinery. Managerial innovation – which relates to management's approach to new ideas and the way that innovation is perceived and rewarded – was also correlated to social status as an important factor when making business decisions. Family owners who view social status as an important factor when making business decisions are likely to encourage investing in development and applied research (Question 4.1), as well as to reward innovative ideas (Question 4.3 and Question 4.5), which could lead to industry successes and acknowledgement and improve the social status of the family in the winemaking community.

There was no significant correlation between social status as an important factor when making business decisions and product innovation. Examples of product innovation that relate to social status noted in literature, pertain to product pricing and positioning (Morton & Podolny, 2002), instead

of new products that are first in the market (Question 4.11, Question 4.12 and Question 4.14). It could be argued that the risk involved in introducing new products and being first in the market (Question 3.12 and Question 3.14), holds significant risk, if the brand-new products are not successful, which could potentially have undesired implications for the family's social status.

Even though it was significantly correlated to innovation, the importance of social status as factor when making business decisions did not significantly moderate the relationship between task conflict and innovation. It could be argued that, unlike other family essence components (such as family commitment) social status decisions do not relate to long-term orientation and can rather be associated with short-term gains. The same socio-emotional wealth drive that supercedes the potential negative impact of task conflict therefore does not apply.

c) Link to the family's identity

Family members may hold a strong sense of attachment and identification to the family business (Björnberg & Nicholson, 2012), because family enterprises are characterised by deep involvement of family (Sharma et al., 2012). Family identity can influence family businesses in strategic decision-making (Monti & Salvemini, 2014), especially when it relates to preserving a positive family business image and reputation (Sharma & Manikuttu, 2005; Westhead et al., 2001).

The present study found that a close link between the business and the identity of the family is correlated with all three types of innovation (refer to Table 6.27). This supports the argument that a close link with the identity of the business, acts as a motivation for family members to be innovative. It can be posited that, when a family's identity is closely linked to that of the family business, the success of the business is of more significant, personal value to the owners (refer to Section 3.5.7.3). Of the three measured non-economic family goals, a close link to the family identity had the strongest, statistically significant correlation with innovation (managerial innovation: $r = 0.31$, $p < 0.01$; process innovation: $r = 0.33$, $p < 0.01$; product innovation: $r = 0.21$, $p = 0.019$).

The close link between the business and the identity of the family is often strengthened by the fact that the family name is part of the brand name. Examples of this include prominent South African wine businesses Raats Family Vineyards, De Wetshof, Sadie Family Vineyards, Graham Beck Vineyards and Badenhorst Family wines.

As in the case of social status as an important goal in business decisions, the strength of the link between the business and the identity of the family, did not significantly moderate the relationship between task conflict and innovation.

d) Community contribution

Family businesses have been suggested to have a stronger commitment to their communities than their non-family counterparts (Dyer & Whetten, 2006; PwC, 2014: 2), with succession intention influencing corporate philanthropy Li et al. (2015).

The present study provides evidence that there is a weak but statistically significant correlation between all three types of innovation and the importance of making a meaningful contribution to the community (refer to Table 6.29). This finding supports a study by Diaz-Moriana (2018), which suggested that conserving innovations are associated with community connectedness and committed innovations, aimed at the long-term sustainability of the community. From a socio-emotional wealth perspective, making a meaningful contribution to the community can be associated with emotional values destined to fulfill the family's needs for the identification and continuation of the family legacy through community citizenship (Berrone et al. 2010).

It can therefore be argued that the importance of making a meaningful contribution to the community, was associated with higher levels of innovation, based on family businesses' close ties with the community (Athanassiou et al., 2002: 147), which could be argued to lead to unique perspectives of social behaviour (Niehm et al., 2008) and binding social ties with the community. The importance of making a meaningful contribution to the community was, however, not a statistically meaningful moderator of the relationship between task conflict and any of the innovation types.

e) Job creation for the next generation

The present study posits that creating jobs for the next generation is associated with higher levels of innovation, based on the commitment associated with socio-economic wealth, to retain the business in the control of the family (Berrone et al., 2012: 259). Furthermore, family commitment is posited to support job security (Bodwell & Chermack, 2010; Hauswald et al., 2016; Konig et al., 2013), which is suggested to positively influence innovation and specifically, radical innovation (Bodwell & Chermack, 2010).

This study found that there was a statistically significant correlation between the importance of creating jobs for the next generation and all three types of innovation. The correlations were, however, very weak – particularly with managerial and product innovation (refer to Table 6.30). The low correlations could be ascribed to nepotism and unsuitable appointments that are cited to have a negative impact on innovation (Miller et al., 2015). Eddleston and Kidwell (2012) suggested that family business leaders often feel compelled to offer family members jobs and promotions. Job creation for the next generation was not a significant moderator of the relationship between conflict and innovation. Although creating jobs for the next generation can be related to a long-view orientation, the weak correlations with innovation may relate to some of the negative attributes of job creation for the next generation (such as nepotism), which can also lead to relationship conflict.

7.3.4.4. Relationship conflict

Relationship conflicts are likely to undermine potential advantages of beneficial task conflict by damaging the relational context for innovation (Sciascia et al., 2013). Relationship conflict between family members, and, specifically, between generations, also effects intergenerational succession (Kellermanns & Eddleston, 2004) and therefore family businesses' long-term orientation. Based on the general consensus, that relationship conflict negatively impacts performance (De Wit et al., 2012; Dreu & Weingart, 2003; O'Neill et al., 2013), the present study investigated the moderating role of relationship conflict between task conflict and innovation.

In the present study, the moderating role of relationship conflict is statistically significant in terms of the relationship between task conflict and managerial innovation, as well as the relationship between task conflict and process innovation. Higher task conflict was associated with lower managerial innovation when relationship conflict was high. Conversely, in businesses where relationship conflict was measured as low, higher task conflict was correlated with higher managerial innovation. These results provide empirical evidence which suggests that relationship conflict is a statistically significant moderator of the relationship between task conflict and managerial innovation, as well as process innovation. Relationship conflict did not moderate the relationship between task conflict and product innovation. This could be related to the fact that product innovation was generally rated the lowest of the innovation types in the wine industry.

It can be argued that if relationship conflict could be detrimental to the intention to transfer the business to the next generation (Kellermanns & Eddleston, 2004), this could be associated with a lower correlation with long-term process and product innovation. The study provides further context to highlight the negative effects of relationship conflict in family businesses (De Wit et al., 2012; Dreu & Weingart, 2003; O'Neill et al., 2013). Furthermore, this study supports the findings of De Clercq and Belausteguigoitia (2015), which suggested that innovation pursuits in family business may be driven by how family members resolve conflict. Therefore, if task conflict is resolved and does not escalate to become relationship conflict, it is likely to positively influence managerial and process innovation. Refer to Section 7.4.2 and Section 7.5.

7.4. PRACTICAL RECOMMENDATIONS

This study provides new insights into the relevance of family influence, by considering the impact that it has on conflict and innovation in family businesses. The following section provides practical recommendations, based on the study's findings, with specific relevance to the South African wine industry.

7.4.1. Promoting long-term family commitment

Family commitment (a dimension of family essence) was found to specifically moderate the relationship between task conflict and process innovation, providing new insights into inconclusive findings in existing literature (De Dreu & Weingart, 2003; O'Neill et al., 2013) about the influence of task conflict on innovation. Higher levels of family commitment were associated with higher levels of managerial, process and product innovation and lower levels of relationship and task conflict. Furthermore, the results of the present study provide empirical evidence suggesting that family commitment is a moderator of the relationship between task conflict and process innovation. At high levels of family commitment, higher levels of task conflict will be associated with higher levels of process innovation. Conversely, at low levels of family commitment, higher levels of task conflict are associated with lower levels of process innovation.

Family members' commitment to the business is posited to be a key determinant of firm survival, success, flexibility, and even longevity (Miller & Le-Breton Miller, 2006; Zahra et al., 2008). Strong family commitment, combined with a culture of stewardship, encourages strategic flexibility, which allows family businesses to respond and adapt to environmental changes (Zahra et al., 2008), which is particularly important in dynamic industries and business environments (Eddleston et al., 2008).

Later-generation members who derive their sense of self and identity from the business and are provided with opportunities aligned with their career interests, are more likely to have an affective commitment to the organisation (Dawson et al., 2015). This study encourages family businesses to enhance a close link between the identity of the family and the business, which was also related to higher levels of innovation (refer to Table 6.27). In many instances, senior-generation family members devote significant efforts to instil later-generation members with the sense of pride, accomplishment, and satisfaction they feel towards the family enterprise (Miller & LeBreton Miller, 2006). This encourages younger members to identify with the firm, to be proud of their legacy, and to experience a desire to stay in their family enterprise. Monti and Salvemini (2014) suggested that family identity can influence family businesses and that the founders' identity can specifically play a significant role in strategic decision-making, including innovation.

The present study further provides empirical evidence that suggests a long-term orientation is associated with higher levels of innovation. This is based on higher levels of innovation in family businesses that intend to transfer the business to the next generation (refer to Section 6.2.5), as well as higher levels of innovation in family businesses that are committed to the family business (refer to Section 6.2.6).

Family businesses are considered to have a strategic horizon that ranges over generations and a long-term orientation that distinguishes them from non-family businesses (Lumpkin & Brigham, 2011; Miller & Le Breton-Miller, 2006; PwC, 2014; Ward, 1988). This is particularly relevant in cyclical industries with extended performance horizons (Aronoff & Ward, 1991), which also applies to the wine industry. It can be argued that the wine industry specifically presents persisting innovations,

which are associated with high levels of commitment (Diaz-Moriana et al., 2018). Persisting innovations are characterised by behaviour that generates future value from present persistence through new technologies and new processes.

The present study also provides evidence that older South African wineries are associated with higher levels of process innovation. With persisting innovation and high levels of family commitment, family businesses are able to persist in long-term investments in process innovations that come to fruition over the long run – across generations.

Family commitment specifically moderated the relationship between task conflict and process innovation. At higher levels of family commitment, higher levels of task conflict were associated with higher levels of process innovation. The latter refers to investment in technology, equipment and training of people and can be viewed as the innovation type with a longer time horizon. This finding builds on the argument of Bergfeld and Weber (2011), that negative internal family dynamics might be of minor relevance, as long as the capability to innovate is maintained over the long term. The present study posits that family commitment not only reduces the potential negative influence of task conflicts, but can lead to a unique environment that, through a committed long-term orientation, is conducive to especially long-term process innovation, in the presence of higher levels of task conflict.

The role of long-term commitment has specific, significant implications for the broader wine industry. A long-term view is noted to be an encouragement for innovation that does not necessarily yield short-term returns (Craig & Dibrell, 2006). Miller and Le Breton-Miller (2006: 732) suggested that long-term goals are more specific and might involve achieving innovation leadership. The type of innovation may also be influenced by a long-term orientation, with Bhide (2000) highlighting that innovation requires long-term investment due to the long lead times associated with successful implementation. Long-term orientation also impacts radical innovations, which typically only come to fruition after significant periods of a decade or longer (Leifer et al., 2000), but ultimately have a bigger industry impact. It can therefore be argued that the broader wine industry could benefit from family business innovation, with longer time horizons – spanning across generations.

Family businesses are advised to enhance the value of a long-term orientation, by emphasising the long-term value and broader industry impact of long-term innovation in family businesses to succeeding generations. The concept of planting vineyards for the next generation is broadly used in the wine industry, because older vineyards are known to produce the greatest wines. This concept can also be applied to innovative ideas, which are conceptualised or even implemented for the benefit of the next generation. The motivation of “planting” new vines, but also new processes and products for the next generation could also yield meaningful contributions and job creation for the next generation. This broader societal impact can also be utilised to instil a long-term orientation to succeeding generations.

Owners of family businesses are encouraged to pursue pronounced long-term strategies affecting the commitment of family members in the business. This supports the suggestion by Hatak et al. (2016) that an explicit strategy regarding family commitment should be considered alongside more established components of innovation strategies. Family business owners and practitioners are encouraged to consider the following practical strategies to advance family commitment and a long-term orientation:

- A first step could be to make family members aware of the facilitating role of family commitment in advancing innovation and a long-term orientation.
- Continuation commitment is related to family members' aspirations regarding future performance of the family business (Mahto et al., 2014). Discussing future aspirations and confirming the enabling possibilities that the continuation of the family business holds can be used as a means of instilling commitment to the family business.
- Mukanzi and Senaji (2017) provided evidence that perceived managerial support is associated with higher commitment. It can therefore be argued that providing family members with the necessary support could be a means of advancing family commitment. This support can comprise access to education, exposure, mentorship and opportunities.
- Some family members may be motivated to the continuation of the family business by aspects that go beyond the business itself, such as philanthropy. These interests are possible tools to keep the support of family members that are not necessarily directly involved in the business, but are interested in building the legacy of the business.
- Fast-growing, high-performing family businesses have been found to encourage family member participation in developing long-term goals and strategies (Upton et al., 2001). By involving family members in long-term strategy and goal planning, commitment is instilled to implement these goals. This is supported by a Kellermanns et al. (2012) study, which suggested that family businesses that encourage family members to partake in the management of the firm should benefit from the development of psychological ownership and shared destiny among family members, thereby enhancing family members' sense of responsibility and commitment to the firm.

7.4.2. The balancing act of harmony and conflict

This study suggests that relationship conflict itself is part of family influence, providing another dimension into the uniqueness of family businesses, which distinguishes them from their non-family counterparts. Rooted in the socio-emotional wealth theory, this study provides insights into how non-financial motivations influence the way in which relationship conflict impacts managerial and process innovation. The importance of the balance between family harmony as a non-economic family goal and the management of task conflict so that it does not escalate into relationship conflict were highlighted and empirically demonstrated. The present study indicated that relationship conflict can moderate the relationship between task conflict and managerial and process innovation,

highlighting that task conflict is more likely to be less detrimental or even positive when there are low levels of relationship conflict. This study supports findings by De Massis et al. (2015) that, in family businesses, family involvement in managerial issues affects deployment of resources resulting in unique advantages and disadvantages that affect the characteristics of innovation processes. Meanwhile, the present study suggests that, when family harmony is rated as an important family goal, it is likely to be associated with lower levels of managerial innovation, at high levels of task conflict.

While the specialised field of conflict resolution falls outside the scope of the present study, the findings suggest that family businesses should focus on family essence attributes that could lead to an environment conducive to innovation. These attributes include relatedness (Corbetta & Salvato; 2004), innovation-supportive stewardship (Bammens et al., 2010), and helping behaviours (Eddleston et al., 2008):

- Family businesses are further advised to be cognisant that harmony as a non-economic family goal could negatively influence family essence attributes that are beneficial to innovation, such as flexibility and autonomy.
- Simons and Peterson (2000) suggested that within-team trust moderates the relationship between task conflict and relationship conflict, with high correlations between task conflict and relationship conflict in teams with low trust, and low correlations in teams with high trust. Family businesses are therefore advised to advance trust-building behaviour, which could be helped by the fact that family members usually have a similar life world, which simplifies communication and develops trust building (Royer et al., 2008).

7.5. CONTRIBUTION TO THE FAMILY BUSINESS RESEARCH

This study responds to mixed results regarding the relationship between family influence and innovation in family businesses (De Massis et al., 2013), by investigating the moderating role of family influence on the relationship between conflict and innovation in family businesses. The following section discusses the contribution of this study in terms of the theories used in this study.

7.5.1. Agency and stewardship theories

Agency theory highlights the conflict of interest between owners and managers, and suggests reducing agency costs through close monitoring or incentives (Eisenhardt, 1989; Jensen & Meckling, 1976). Conversely, stewardship theory posits that owners and managers are both motivated by altruistic motives to act for the collective good of their business (Davis et al., 1997). The findings of the present study are discussed based on the dimensions of stewardship theory outlined by Chia-Jung et al. (2017): decision comprehensiveness, participative governance and long-term orientation (refer to Section 2.4.1.2).

According to Corbetta and Salvato (2004), stewardship in family businesses, is typically associated with conditions that include commitment to the enterprise. The present study's finding that family commitment is positively related to all three types of innovation is in line with research suggesting that commitment can motivate family members to act in the firm's best interests (Corbetta & Salvato, 2004), which can support the fulfilment of organisational goals and improve performance through innovation (Filser et al., 2018). This supports the suggestion of Bammens et al. (2010), that attributes of family influence, such as commitment (Corbetta & Salvato, 2004), could lead to a relatedness, which enhances autonomy, trust and collectivism, resulting in a stronger innovation-supportive stewardship culture.

Chia-Jung et al. (2017) posited that, based on the underlying arguments of stewardship theory, managers are motivated to be more diligent in comprehensively evaluating strategic decisions (Eddleston et al., 2012). This allows team members to evaluate tasks with pre-existing knowledge, multiple approaches, various courses of action and numerous decision-related criteria. By considering as many alternatives as possible, team members will have a chance to challenge and oppose one another on task issues (Chia-Jung et al., 2017). As a result, comprehensive decision-making can help organisations to foster creativity and broaden the scope of existing activities, benefitting innovation.

Task conflict can lead to decision-makers seeing multiple perspectives, avoiding hazardous decisions and promoting innovative thinking (Cosier & Dalton, 1990) resulting in better decisions, because it encourages greater cognitive understanding of the issue being considered (Simons & Peterson, 2000). Similarly, the potential positive impact of task conflict is supported by studies that provide evidence of a positive relationship between task conflict and innovation (De Clercq et al., 2009; De Dreu, 2006; Li & Li, 2009; Lu, Zhou & Leung, 2011).

The present study contributes to the understanding of the impact of a stewardship perspective in family businesses, by providing evidence of the moderating influence of family commitment on the relationship between task conflict and specifically, process innovation. Building on the perspective of Chia-Jung et al. (2017) regarding steward-like management in family businesses, the present study indicates that, with high levels of family commitment, family businesses are likely to reap the potential benefits of task conflict in terms of particularly process innovation. The fact that the moderating effect was specifically applicable to process innovation can be ascribed to the relevance of a long-term orientation in process innovation in the wine industry, which is discussed later in this section.

Building on the perspective of Chia-Jung et al. (2017) regarding stewardship theory and participative governance, the present study provides evidence that suggests that high levels of relationship conflict can negatively impact participative governance, resulting in lower levels of process and managerial innovation at higher levels of task conflict.

Relationship conflict can lead family members to limit positive contributions of effort and participation in the business (Kidwell et al., 2012). This is supported by a study by Sciascia et al. (2013), which suggested that relationship conflicts are likely to undermine potential advantages of beneficial task conflict by damaging the relational context for innovation. Relationship conflict is likely to hinder group functioning in groups (Jehn, 1994; Schwenk, 1989) and top management teams (Amason, 1996).

The moderating influence of family harmony as a non-economic family goal can also be related to the participative governance dimension of stewardship theory. When family harmony is perceived as an important goal when making business decisions, managerial innovation was low at higher levels of task conflict. It can be argued that, when harmony is considered as an important family goal, this goal limits participative governance, since managers are scared of disrupting family harmony. Participative governance is therefore limited because family members cannot express themselves freely (Nicholson, 2008), which increases risk averseness and an unwillingness to change (Eddleston et al., 2012).

Lastly, Chia-Jung et al. (2017) posited that stewardship-oriented managers would take a longer time horizon and allow family businesses to dedicate resources required for innovation and risk taking (Zahra et al., 2004). A study by Diaz-Moriana et al. (2018) proposed that some family businesses embark on innovation to generate a legacy of value and reward for subsequent generations. These businesses innovated with the underlying intent to contribute to a desired legacy, which can be associated with a stewardship-centric approach. Family leaders were motivated to engage in innovations in order to transfer a healthy growing business to the next generation and, therefore, to benefit the family's broader interests. This is supported by a study by Miller and Le Breton-Miller (2006), which argued that stewardship over the longevity of the family firm can enhance innovation.

The findings of the present study suggest that a long-term orientation could be related to higher levels of innovation. Firstly, the study provides evidence that higher levels of family commitment are related to higher levels of all three types of innovation. Secondly, the study suggests that businesses that intend to transfer the business to the next generation are associated with higher levels of process and product innovation. Furthermore, the present study's finding, that family commitment moderates the relationship between task conflict and process innovation, supports the finding by Bergfeld and Weber (2011) that internal family dynamics (which could include relationship conflict) might be of minor relevance, as long as the capability to innovate is maintained over the long term. It could be argued that, with high family commitment, task conflict is less likely to escalate into detrimental relationship conflict (Bergfeld & Weber, 2011), while the capability to innovate is maintained over the long term.

7.5.2. Socio-emotional wealth

Socio-emotional wealth theory suggests that family businesses are typically motivated by, and committed to, the preservation of their socio-emotional wealth, referring to non-financial aspects or 'affective endowments' of family owners (Berrone et al., 2012: 259). Socio-emotional wealth priorities include the desire for family control and influence, identification of family members with the business, preserving binding social ties among family members, emotional attachment of family members and dynastic succession. This next section discusses the present study's contribution to socio-emotional wealth theory.

Family businesses' innovativeness can be determined by the family's propensity to preserve socio-emotional wealth (Filser et al., 2017). Filser et al. (2017) argued that family members with strong emotional attachment to the family business (a dimension of socio-emotional wealth) tend to feel more committed to the firm and its long-term success. This commitment to long-term success can outweigh the potential risks of innovation, including the risk of business failure due to unsuccessful innovations. Family businesses may be willing to accept the risks of developing their innovativeness to maintain their economic and non-economic wealth (Classen et al., 2014), instead of conserving socio-emotional wealth through risk adversity, which could hamper innovation. This is supported by a study by Baykal (2019), which suggested that low uncertainty avoidance cultures are more inclined to accept non-traditional ways of conducting business and ensure greater freedom for those individuals who have novel ideas.

Filser et al. (2017) suggested that responsibility and commitment can motivate family members to act in the firm's best interests (Corbetta & Salvato, 2004), which can support the fulfilment of organisational goals, including innovation. The present study contributes to the understanding of socio-emotional wealth by providing evidence that high levels of family commitment can be associated with high levels of all three types of innovation and that family commitment also moderates the relationship between conflict and specifically, process conflict. The role of dynastic succession in innovation is also highlighted, with the intention of transferring the business to the next generation being associated with higher levels of process and product innovation.

In the same way that family commitment can lead to family businesses taking on risk to innovate (Filser et al., 2017), businesses with high levels of family commitment have the ability to take the risk of engaging in constructive task conflict, resulting in higher levels of innovation. It can be argued that the result that family commitment specifically had a significant moderating effect on the relationship between task conflict and process conflict, can be ascribed to the long-term nature of process innovation – particularly in the wine industry. As a result of strong emotional attachment (a dimension of socio-emotional wealth), family executives typically reveal a strong sense of responsibility for the longevity of their firm (Lumpkin et al., 2010). Accordingly, they focus on the long-term survival of their firm (Miller et al., 2008). It can therefore be argued that, with high levels of family commitment, a long-term orientation seems to potentially supersede potential causes of relationship conflict or the

possibility that task conflict escalates into detrimental relationship conflict (Bergfeld & Weber, 2011), while the capability to innovate is maintained over the long term.

A study by Gast et al. (2018) argued that, due to strong emotional attachment, family business managers attribute high value to strong emotional bonds and harmony, making them reluctant to put those relationships at risk by engaging in risky activities like innovativeness (Li et al., 2013). The present study provides further context to the role of harmony as a non-economic family goal, in terms of innovation, by providing evidence that harmony as a non-economic family goal can be a moderator of the relationship between task conflict and managerial innovation. When harmony is regarded as an important non-economic family goal, lower levels of managerial innovation can be expected with higher levels of task conflict. Harmony as a family goal can therefore be argued to result in risk-adversity (in terms of avoiding the risk disrupting harmony) and lower levels of innovation with higher levels of task conflict.

Filser et al. (2018) argued that well-functioning families with stable relationships and common interests enjoy a sense of continuity, since the level of conflict is low and the level of satisfaction is high. The owning family is thereby satisfied with the general conditions prevailing in the family and the focus on socio-emotional wealth is enhanced. The family's functional stability of relationships is therefore important in shaping the priority and behaviour of family members and of the family business. In this case, harmony as a non-economic family goal is regarded as a negative attribute of socio-emotional wealth in terms of innovation, adding to the notion that socio-economic wealth can indeed have a "dark side" (Kellermanns et al., 2012), in terms of the influence of task conflict on managerial innovation.

The preservation of socio-emotional wealth could explain why family businesses often prefer incremental innovations, rather than radical innovations, because they tend to select modest innovation strategies that are less likely to challenge family financial and managerial control (Classen et al., 2014; De Massis et al. 2013). Incremental innovation refers to the fact that existing processes are slightly adjusted to existing knowledge. Process innovation is particularly relevant in the wine industry, where the process of fermenting grapes to produce wine is seldomly radically influenced, but rather adjusted through long-term process innovation to improve quality or save costs. In the case of family businesses, knowledge is developed across generations (Trevinyo-Rodriguez & Tapies, 2010; Woodfield & Husted, 2017) and applied over the long run through process innovation. This could explain why process innovation was specifically moderated by family commitment.

7.6. LIMITATIONS AND PROPOSED FUTURE STUDIES

The present study provided new perspectives about the relevance of family influence in terms of innovation and conflict in family businesses. The moderating role of family commitment as a moderator of the relationship between conflict and innovation was empirically highlighted through a quantitative study. The quantitative findings presented in the present study can be further studied

through qualitative studies, which could provide more specific insights into particularly the more personal relationship aspects of family businesses.

Furthermore, this was a sector-specific study, which was conducted in the South African wine industry. This industry is known for a specific balance between family heritage and innovation and a unique meaning of family influence, because the product is strongly linked to the family, its history, experiences and the people who have handed down both the family name and the business. Further cross-sectional studies could provide additional insights in terms of testing the proposed hypotheses in other sectors, to establish whether the findings of the present study are indeed unique to the South African wine industry. The smaller sample size of the present study is identified as a limitation of the study and cross-sectional studies with access to a larger study population could further scrutinise the relevance of the findings of the present study to family businesses in general.

The present study identified key dimensions of family influence (power, experience, generational overlap, goal alignment, intention to transfer to the next generation, non-economic family goals and relationship conflict) from existing scholarly literature, in order to measure their moderating effect on conflict and innovation. However, other dimensions of family influence could exist – such as other non-economic family goals. The study by Williams (2015), for example, provides an expansive list of non-economic family goals that vary from religious fulfilment to environmental sustainability.

Job creation for the next generation was measured as a non-economic family goal. This construct could be viewed as ambiguous, since it can be viewed as job creation for the broader community or job creation for the family. Based on the phrase “for the next generation” the present study specifically considered this as job creation for the next generation of the family. Broader job creation could, however, also be considered as a non-economic social goal and this aspect could be specifically investigated in future studies.

The small sample size is a limitation of the present study, since small sample sizes tend to decrease statistical power (Aiken et al., 1991). For this reason, our analyses should be viewed as conservative tests of our hypotheses. Small sample sizes are not uncommon in experience sampling research, because of the difficulty in collecting data (Ilies & Judge, 2002; Uy, Sun & Foo, 2017). Despite the sample size limitation, the present study’s findings provide evidence that is generally consistent with the study’s *priori* hypothesized patterns. Future research should seek to employ larger sample sizes.

Longitudinal studies could expand on some of the trends highlighted. This is particularly relevant in terms of the trans-generational nature of family businesses and the importance of a long-term orientation. Further insights could be gained by distinguishing between incremental and radical innovation, particularly because of the far-reaching impact of radical innovations and the proposal that long-term orientations could be conducive to radical innovations.

The present study attempted to gain multiple responses from family businesses, but eventually only achieved limited multiple responses. This is noted as a limitation. The unit of analyses for the present study was family businesses and limited information about the individual management team members was obtained. This is noted as a limitation, because the characteristics of the respondents might influence how they view the questions regarding the family business. Future studies are subsequently advised to include more information about the gender, position and family hierarchy of individual respondents.

Based on the reliability analysis, the non-economic family goals scale was not utilised as a single construct and individual items were considered separately. The use of individual measures is deemed to be a limitation and further analysis of especially family harmony as a non-economic goal is recommended for future studies.

Given the key importance of family businesses in a regional, national and global context, it is important that the body of knowledge on family businesses' innovation, should continue to be developed. The impact of open innovation in terms of conflict and innovation in family businesses should be explored. This could include intergenerational dynamics as potential inhibitors/promoters of open innovation in family businesses. Other future studies could include the role of non-family managers in the relationship between conflict and innovation in family businesses. Lastly, potential dynamic systemic interrelationships between big businesses and family-owned businesses should be identified and developed to ensure, in a mutually-beneficial manner, systemic optimal levels of innovation.

The outcomes of the aforementioned recommended research should inform and enrich the body of knowledge on the topic of family business innovation. The research should be integrated in training and development initiatives aimed at owner-managers of family businesses, as well as at other key ecosystem elements that focus on the optimal development of family-owned businesses, including universities, financial institutions, public authorities, policy-makers, as well as family business consultants.

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APPENDIX A: EMAIL COVER LETTER

Dear Petrus Bosman

Family businesses account for the majority of wineries in the South African wine industry. I am studying towards the fulfilment of my doctorate at Stellenbosch University. My research about the impact of family influence on conflict and innovation in the South African wine industry could provide valuable practical insights in terms of the long-term sustainability of family-owned wineries.

Innovation is important for the growth and sustainability of family businesses. A better understanding of conflict and innovation could provide businesses with relevant practical managerial insights in terms of managing conflict and innovation in the context of the South African wine industry, ultimately ensuring that family businesses remain innovative and sustainable.

Feedback from the top management of Bosman Family Vineyards is important to enable me to complete my research. An easy-to-complete online questionnaire should take you about 15 minutes to complete. Kindly forward this email to the top management team of Bosman Family Vineyards, so that they can complete the survey by following the link below.

<http://ow.ly/xdoe30ixOPe3>

The research obtained ethical clearance from the University of Stellenbosch Business School and the survey is entirely voluntary.

Thanking you in keen anticipation

Edo Heyns

edoheyns@gmail.com

APPENDIX B: WEBSITE SURVEY COVER LETTER

University of Stellenbosch

Carl Cronje Drive, Stellenbosch University,
Cape Town, 7530

Email: edoheyns@gmail.com

Supervisor: Prof De Coning (tjdc@sun.ac.za)

Dear family business leader

Family business survey

I am studying towards the fulfilment of my doctorate at Stellenbosch University and need your assistance with the completion of a questionnaire that will provide me with valuable information.

This questionnaire is part of a research project to investigate innovation and conflict within South African family-owned businesses. As a family business manager, your contribution is important to enable me to obtain a clear understanding of this topic.

This easy-to-complete online questionnaire should take you about 15 minutes to complete. The information you provide will be treated in the strictest confidentiality and participants have the right to withdraw from the survey.

Please complete the online questionnaire before 30 August 2015. If you have any questions or would like further information, please do not hesitate to phone me on 082 523 8127 or email me at edoheyns@gmail.com.

The results of the survey will be made available to participants who provide their contact details at the end of the survey. These participants will also stand a chance of winning six bottles of Graham Beck Blanc de Blancs 2010 Methode Cap Classique wine, valued at R2 740.

Thanking you in keen anticipation

Edo Heyns

APPENDIX C: ANOVA: SINGLE VS. MULTIPLE RESPONSES PER BUSINESS FOR MULTI-ITEM MEASURES

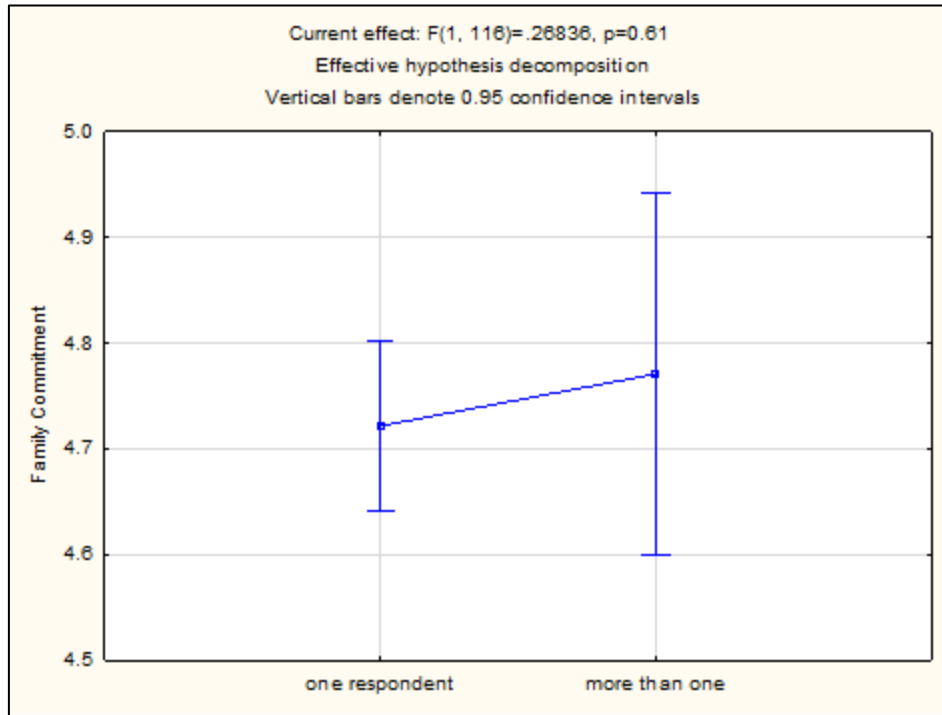


Figure C.1: Family commitment

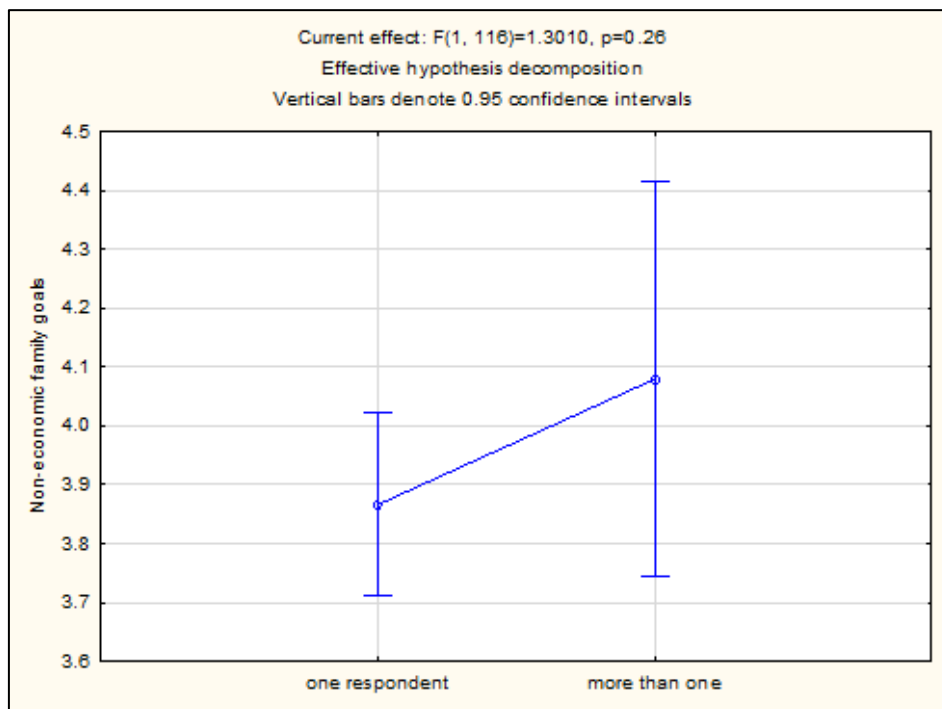


Figure C.2: Non-economic family goals

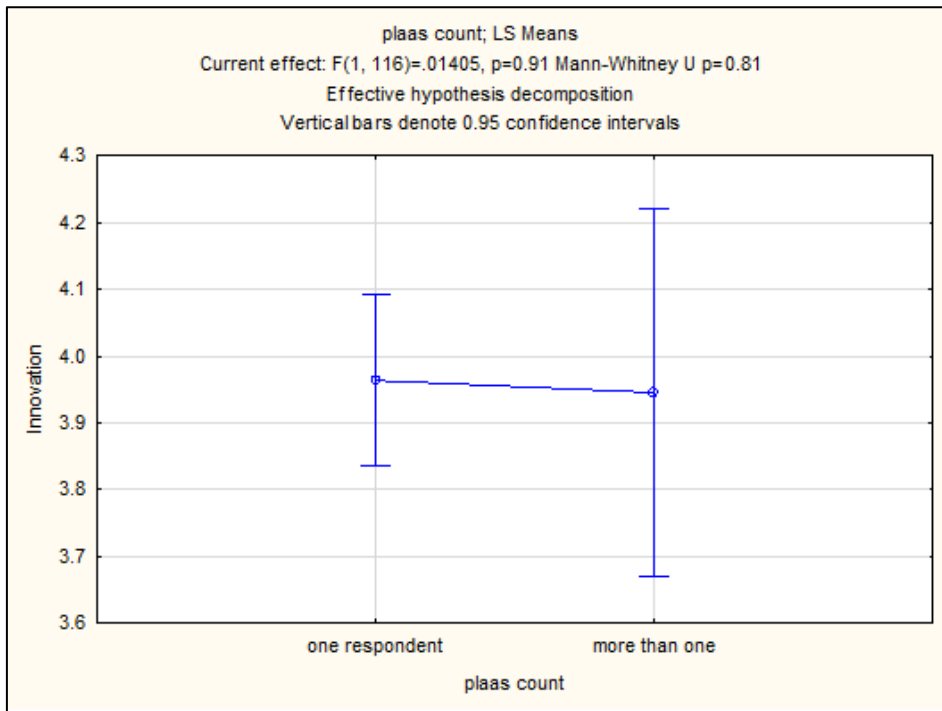


Figure C.3: Innovation

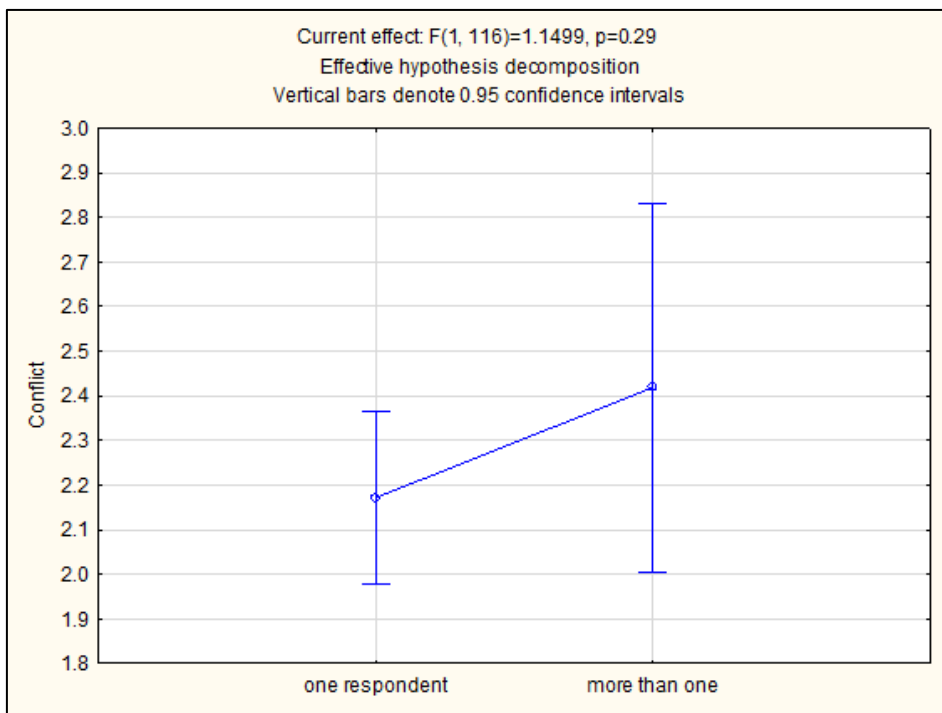


Figure C.4: Conflict

APPENDIX D: ANOVA: FAMILY MEMBERS VS. NON-FAMILY MEMBERS FOR MULTI- ITEM MEASURES

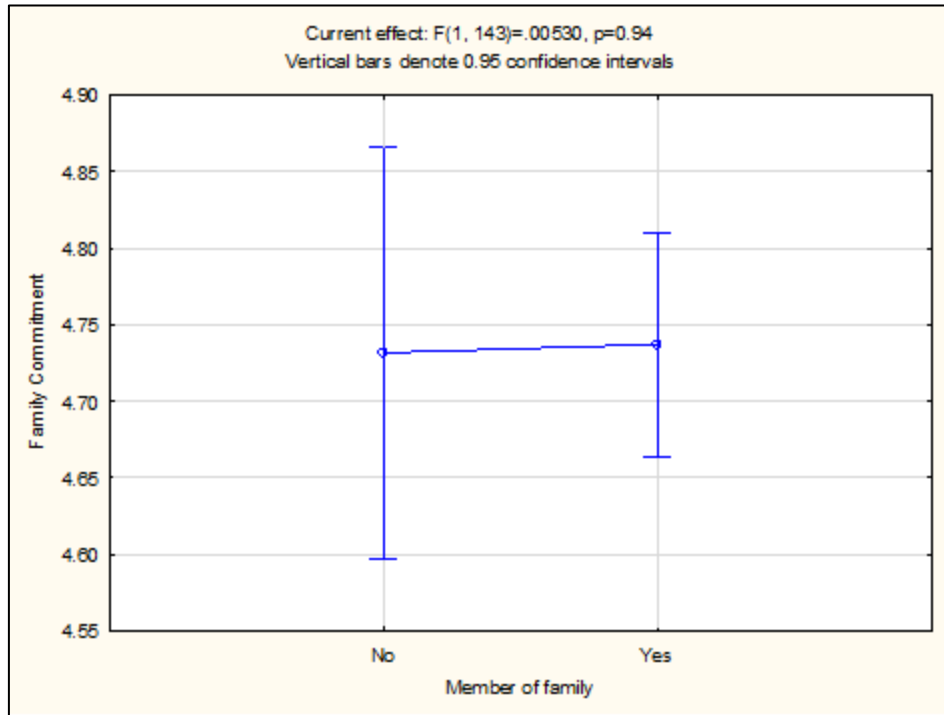


Figure D.1: Family commitment

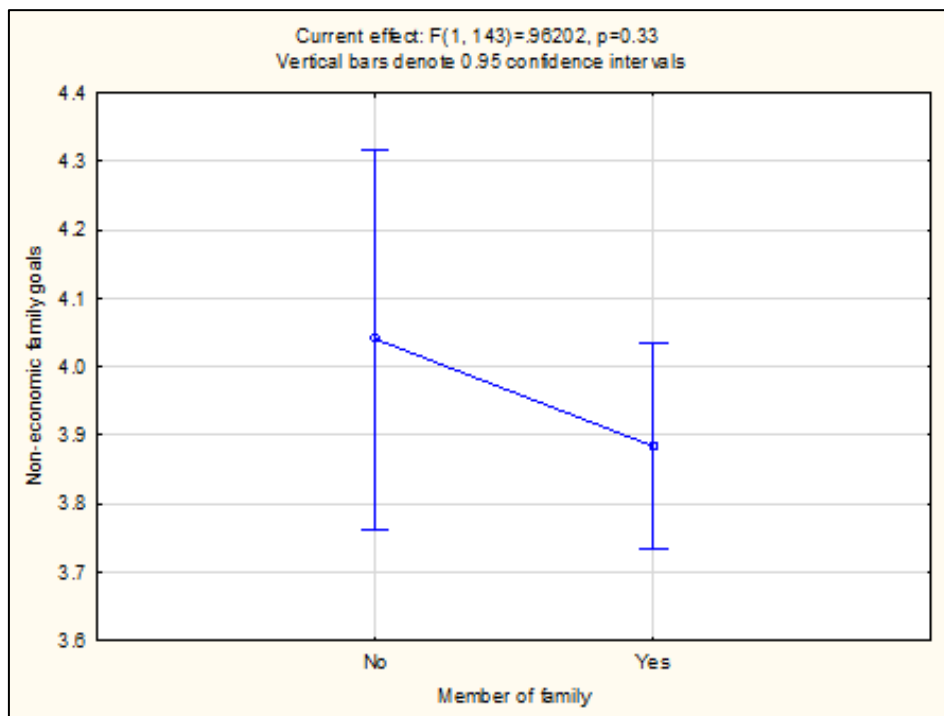
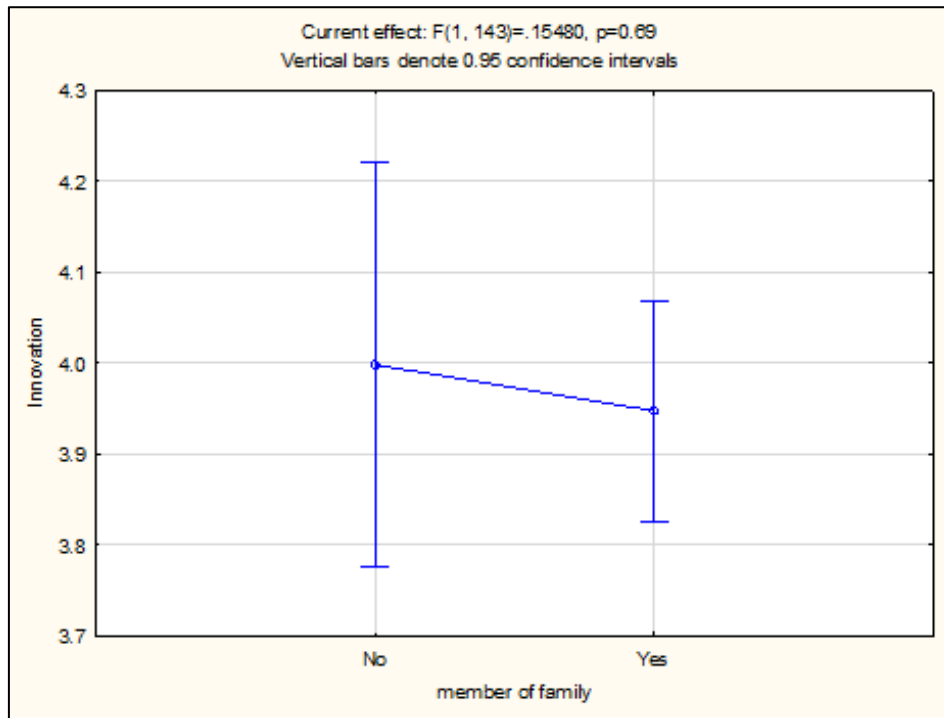
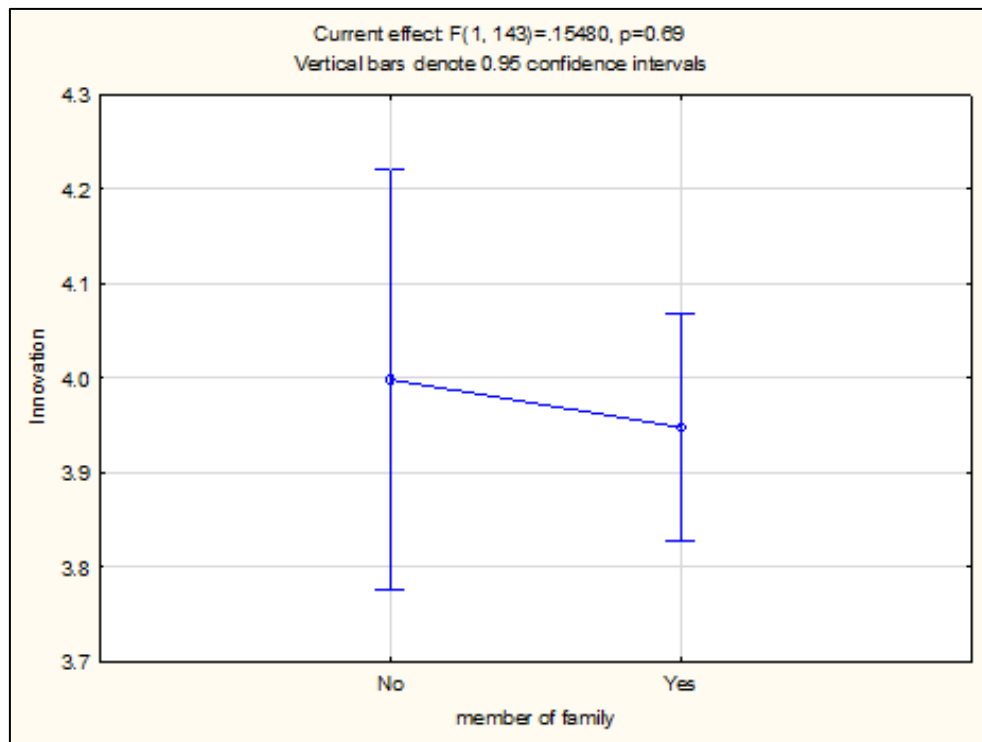


Figure D.2: Non-economic family goals

**Figure D.3: Innovation****Figure D.4: Conflict**

APPENDIX E: ETHICAL CLEARANCE



7 August 2015

Dear Edo

Re: Ethical screening: Edo Heyns - Approved with stipulations

US ID No : 14283247
Research programme : PhD
Title : Conflict and innovation: a wine industry family business perspective
Supervisor : Prof Tobie de Coning

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 : edoheyns@gmail.com
Supervisor : tjdc@sun.ac.za
USB DESC Chair : Mias.deKlerk@usb.ac.za

Yours sincerely

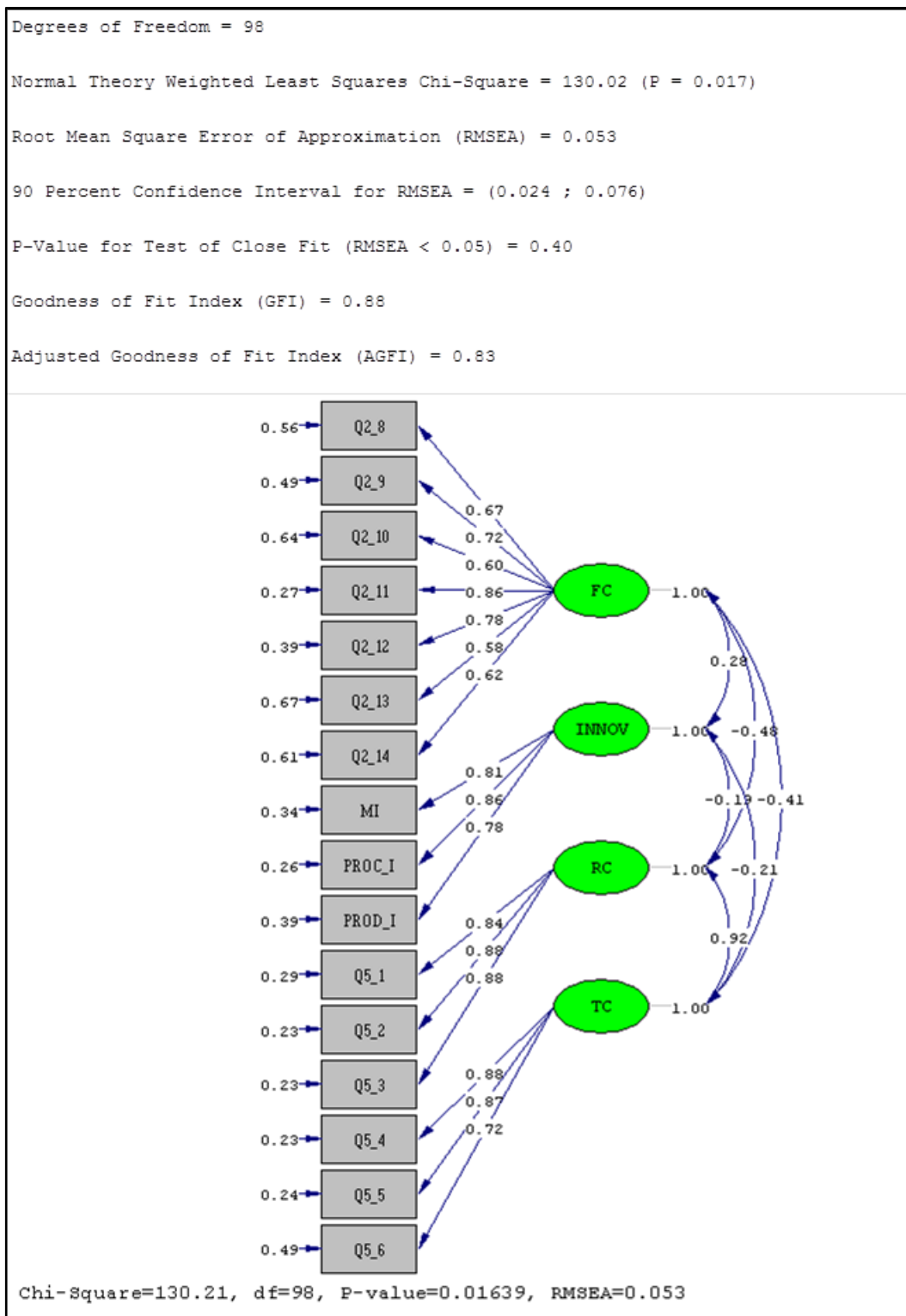
Professor Mias de Klerk
Chair: USB Departmental Ethics Screening Committee

2/...

UNIVERSITEIT
VAN STELLENBOSCH
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APPENDIX F: CONFIRMATORY FACTOR ANALYSIS



Note: FC: family conflict; Innov: innovation; RC: relationship conflict; TC: task conflict.

Figure F.1: CFA analysis

Table F.1: Lambda-X table for CFA

Latent variable	Item	Loading	SE	T-statistic	Communalities
Family commitment	Question 2.8	0.67	0.06	11.67	0.4489
Family commitment	Question 2.9	0.72	0.05	14.07	0.5184
Family commitment	Question 2.10	0.6	0.06	9.54	0.36
Family commitment	Question 2.11	0.86	0.03	25.75	0.73
Family commitment	Question 2.12	0.78	0.04	18.06	0.6084
Family commitment	Question 2.13	0.58	0.04	8.52	0.3364
Family commitment	Question 2.14	0.62	0.07	9.95	0.6561
Innovation	Managerial innovation	0.81	0.06	18.03	0.7396
Innovation	Process innovation	0.86	0.04	20.69	0.6084
Innovation	Product innovation	0.78	0.04	16.31	0.7056
Relationship conflict	Question 5.1	0.84	0.5	26.45	0.7744
Relationship conflict	Question 5.2	0.88	0.03	33.37	0.7744
Relationship conflict	Question 5.3	0.88	0.03	32.11	0.7744
Task conflict	Question 5.4	0.88	0.03	30.97	0.7744
Task conflict	Question 5.5	0.87	0.03	30.21	0.7569
Task conflict	Question 5.6	0.72	0.05	14.40	0.5184

Table F.2: CFA variance extracted and construct reliability

	Variance extracted	Construct reliability
Family commitment	0.5	0.9
Innovation	0.7	0.9
Relationship conflict	0.8	0.9
Task conflict	0.7	0.9

APPENDIX G:

FULL LIST OF QUESTIONS FROM THE QUESTIONNAIRE

No	Question	Answer type
	Criteria	
1.1.	The family owns at least 51% of the business	Yes/No
1.2.	The family can determine the strategic direction of the business	Yes/No
1.3.	I am part of the management team of the family business	Yes/No
1.4.	I am a member of the family	Yes/No
	Family influence	
2.1.	The family has the intention to transfer the business to a next generation	Yes/No
2.2.	How long has the business been in existence in number of years?	Number
2.3.	How many people are employed by the business?	Number
2.4.	How many family members are involved in the management of the business?	Checkbox: 1, 2, 3, more than 3
2.5.	Which generation is currently most actively involved in managing the business?	Checkbox: 1, 2, 3, more than 3
2.6.	Management control of the business is concentrated in the hands of how many generations?	Checkbox: 1, 2, 3, more than 3
2.7.	In the family business ownership is concentrated within how many generations?	Checkbox: 1, 2, 3, more than 3
2.8.	Family members feel loyal to the business	5-point Likert
2.9.	The family and business have similar values	5-point Likert
2.10.	Family members publicly support the business	5-point Likert
2.11.	Family members are proud to be a part of the business	5-point Likert
2.12.	Family members agree with the goals, plans and policies of the business	5-point Likert
2.13.	Family members really care about the fate of the business	5-point Likert
2.14.	Family members are willing to put in extra effort to help the business be successful	5-point Likert
	Goals	
3.1.	The goals of the different generations involved in the business are similar	5-point Likert
3.2.	The future vision for the family business is the same among the different generations	5-point Likert
3.3.	Succession between generations is regarded as an ideal time for change	5-point Likert
3.4.	When the succeeding generation takes over the business, goals are likely to change	5-point Likert
3.5.	Family harmony is an important goal when making business decisions	5-point Likert
3.6.	The social status of the family is an important factor when making family business decisions	5-point Likert

No	Question	Answer type
	Goals	
3.7.	The business is closely linked to the identity of my family	5-point Likert
3.8.	It is important that the business makes a meaningful contribution to the community	5-point Likert
3.9.	The business needs to provide job opportunities for the next generation	5-point Likert
3.10.	Success in our business is based on continuous improvement and learning in the process	5-point Likert
3.11.	Within the business, mistakes are viewed as part of continuous improvement	5-point Likert
3.12.	Management is interested in how employees gain knowledge	5-point Likert
3.13.	Our business encourages employees to improve their skills	5-point Likert
3.14.	Employees are encouraged to try different approaches in solving a difficult task	5-point Likert
3.15.	Satisfaction is achieved through acquiring high proficiency	5-point Likert
3.16.	Management is interested in how employees are performing against the target	5-point Likert
3.17.	It is important to be perceived as the best at what we do	5-point Likert
3.18.	Employees are encouraged to be fairly confident on the success of the task before commencement	5-point Likert
3.19.	Recognition of our accomplishments by others is crucial to the business	5-point Likert
3.20.	Our overall performance is evaluated relative to others in the industry	5-point Likert
	Innovation	
4.1.	Management constantly seeks to develop new ideas	5-point Likert
4.2.	Our business invests in applied research and development	5-point Likert
4.3.	Innovative ideas are rewarded in our business	5-point Likert
4.4.	People are encouraged to perceive innovation as an opportunity	5-point Likert
4.5.	Management rewards individuals for innovative ideas	5-point Likert
4.6.	We constantly use technology to enhance our efficiency	5-point Likert
4.7.	We regularly invest to update our plant and equipment	5-point Likert
4.8.	We constantly benchmark to world-class standards	5-point Likert
4.9.	Work practices are continuously reviewed to enhance efficiency	5-point Likert
4.10.	We train our people in emerging industry technology	5-point Likert
4.11.	Our new products/services have caused significant changes in the industry	5-point Likert
4.12.	We are prepared to introduce a totally new product/service even though it is risky	5-point Likert
4.13.	We constantly modify our products/services to better serve our customers	5-point Likert
4.14.	We prefer to be the first in the market with new products/services	5-point Likert

No	Question	Answer type
	Conflict	
5.1.	There is a lot of anger among family members	5-point Likert
5.2.	There is personal friction among family members during decisions	5-point Likert
5.3.	There is a lot of tension in the family during decisions	5-point Likert
5.4.	There are many disagreements about different ideas	5-point Likert
5.5.	The family has to work through many differences about the content of decisions	5-point Likert
5.6.	There are many differences of opinion among the family members	5-point Likert

APPENDIX H:

FULL LIST OF HYPOTHESES

Family power: Management power	
Null Hypothesis 1a¹	There is no relationship between the number of family members in the business's management team and management innovation.
Alternative Hypothesis 1a¹	Family businesses with more family members in the business's management team are associated with higher levels of management innovation.
Null Hypothesis 1a²	There is no relationship between the number of family members in the business's management team and process innovation.
Alternative Hypothesis 1a²	Family businesses with more family members in the business's management team are associated with higher levels of process innovation.
Null Hypothesis 1a³	There is no relationship between the number of family members in the business's management team and product innovation.
Alternative Hypothesis 1a³	Family businesses with more family members in the business's management team are associated with higher levels of product innovation.
Null Hypothesis 1b¹	There is no relationship between the number of family members in the business's management team and relationship conflict.
Alternative Hypothesis 1b¹	Family businesses with more family members in the business's management team are associated with higher levels of relationship conflict.
Null Hypothesis 1b²	There is no relationship between the number of family members in the business's management team and task conflict.
Alternative Hypothesis 1b²	Family businesses with more family members in the business's management team will present higher levels of task conflict.
Experience: Business age and Innovation	
Null Hypothesis 2a¹	There is no relationship between business age and managerial innovation.
Alternative Hypothesis 2a^{1a}	Younger family businesses are associated with higher levels of managerial innovation.
Alternative Hypothesis 2a^{1b}	Older family businesses are associated with higher levels of managerial innovation.
Null Hypothesis 2a²	There is no relationship between business age and process innovation.
Alternative Hypothesis 2a^{2a}:	Younger family businesses are associated with higher levels of process innovation.
Alternative Hypothesis 2a^{2b}:	Older family businesses are associated with higher levels of process innovation.
Null Hypothesis 2a³:	There is no relationship between business age and product innovation.
Alternative Hypothesis 2a^{3a}:	Younger family businesses are associated with higher levels of product innovation.
Alternative Hypothesis 2a^{3b}:	Older family businesses are associated with higher levels of product innovation.

Experience: Managing generation and Innovation	
Null Hypothesis 2b¹	There is no relationship between the managing generation and managerial innovation.
Alternative Hypothesis 2b^{1a}	Earlier generation family businesses are associated with higher levels of managerial innovation.
Alternative Hypothesis 2b^{1b}	Later generation family businesses are associated with higher levels of managerial innovation.
Null Hypothesis 2b²	There is no relationship between the managing generation and process innovation.
Alternative Hypothesis 2b^{2a}:	Earlier generation family businesses are associated with higher levels of process innovation.
Alternative Hypothesis 2b^{2b}:	Later-generation family businesses are associated with higher levels of process innovation.
Null Hypothesis 2b³:	There is no relationship between managing generation and product innovation.
Alternative Hypothesis 2b^{3a}:	Early-generation family businesses are associated with higher levels of product innovation.
Alternative Hypothesis 2b^{3b}	Later-generation family businesses are associated with higher levels of product innovation.
Experience: Business age and Conflict	
Null Hypothesis 2c¹	There is no relationship between business age and relationship conflict.
Alternative Hypothesis 2c¹	Older family businesses are associated with higher levels of relationship conflict.
Null Hypothesis 2c²	There is no relationship between business age and task conflict.
Alternative Hypothesis 2c²	Older family businesses are associated with higher levels of task conflict.
Experience: Managing Generation and Conflict	
Null Hypothesis 2d¹	There is no relationship between the managing generation and relationship conflict.
Alternative Hypothesis 2c¹	Later-generation family businesses are associated with higher levels of relationship conflict.
Null Hypothesis 2c²	There is no relationship between the managing generation and task conflict.
Alternative Hypothesis 2c²:	Later generation family businesses are associated with higher levels of task conflict.
Generational overlap: Management	
Null Hypothesis 3a¹	There is no relationship between the number of generations involved in the management of the family business and managerial innovation.
Alternative Hypothesis 3a¹	Family businesses where more than one generation are involved in the management of the business, are associated with higher levels of managerial innovation.
Null Hypothesis 3a²	There is no relationship between the number of generations involved in the management of the family business and process innovation.
Alternative Hypothesis 3a²	Family businesses where more than one generation are involved in the management of the business, are associated with higher levels of process innovation.

Generational overlap: Management (continued)	
Null Hypothesis 3a³	There is no relationship between the number of generations involved in the management of the family business and product innovation.
Alternative Hypothesis 3a³	Family businesses where more than one generation are involved in the management of the business, are associated with higher levels of product innovation.
Null Hypothesis 3b¹	There is no relationship between the number of generations involved in the management of the family business and relationship conflict.
Alternative Hypothesis 3b¹	Family businesses where more than one generation are involved in the management of the business, are associated with higher levels of relationship conflict.
Null Hypothesis 3b²	There is no relationship between the number of generations involved in the management of the family business and task conflict.
Alternative Hypothesis 3b²	Family businesses where more than one generation are involved in the management of the business, are associated with higher levels of task conflict.
Generational overlap: Ownership	
Null Hypothesis 4a¹	There is no relationship between ownership dispersion between generations and managerial innovation.
Alternative Hypothesis 4a¹	Family businesses where ownership is dispersed between more than one generation, are associated with higher levels of managerial innovation.
Null Hypothesis 4a²	There is no relationship between ownership dispersion between generations and process innovation.
Alternative Hypothesis 4a²	Family businesses where ownership is dispersed between more than one generation, are associated with higher levels of process innovation.
Null Hypothesis 4a³	There is no relationship between ownership dispersion between generations and product innovation.
Alternative Hypothesis 4a³	Family businesses where ownership is dispersed between more than one generation, are associated with higher levels of product innovation.
Null Hypothesis 4b¹	There is no relationship between ownership dispersion between generations and relationship conflict.
Alternative Hypothesis 4b¹	Family businesses where ownership is dispersed between more than one generation, are associated with higher levels of relationship conflict.
Null Hypothesis 4b²	There is no relationship between ownership dispersion between generations and task conflict.
Alternative Hypothesis 4b²	Family businesses where ownership is dispersed between more than one generation, are associated with higher levels of task conflict.
Goal alignment: Innovation	
Null Hypothesis 5a¹	There is no relationship between whether goals are similar across generations and managerial innovation.
Alternative Hypothesis 5a¹	When the goals of different generations are similar, the business will present higher levels of managerial innovation.
Null Hypothesis 5a²	There is no relationship between whether goals are similar across generations and process innovation.
Alternative Hypothesis 5a²	When the goals of different generations are similar, the business will present higher levels of process innovation.

Goal alignment: Innovation (continued)	
Null Hypothesis 5a³	There is no relationship between whether goals are similar across generations and product innovation.
Alternative Hypothesis 5a³	When the goals of different generations are similar, the business will present higher levels of product innovation.
Null Hypothesis 5b¹	There is no relationship between whether goals are similar across generations and relationship conflict.
Alternative Hypothesis 5b¹	When the goals of different generations are similar, the business will present lower levels of relationship conflict.
Null Hypothesis 5b²	There is no relationship between whether goals are similar across generations and task conflict.
Alternative Hypothesis 5b²	When the goals of different generations are similar, the business will present lower levels of task conflict.
Null Hypothesis 5c¹	Whether goals between generations are similar does not impact the relationship between task conflict and managerial innovation
Alternative Hypothesis 5c¹	The relationship between task conflict and managerial innovation is moderated by whether the goals between generations are similar.
Null Hypothesis 5c²	Whether goals between generations are similar does not impact the relationship between task conflict and managerial innovation
Alternative Hypothesis 5c²	The relationship between task conflict and process innovation is moderated by whether the goals between generations are similar.
Null Hypothesis 5c³	Whether goals between generations are similar does not impact the relationship between task conflict and product innovation
Alternative Hypothesis 5c³	The relationship between task conflict and product innovation is moderated by whether the goals between generations are similar.
Intention of generational transfer	
Null Hypothesis 6a¹	There is no relationship between the intention to transfer the business to the next generation and managerial innovation.
Alternative Hypothesis 6a¹	Family businesses that intend to transfer the business to the next generation, are associated with higher levels of managerial innovation.
Null Hypothesis 6a²	There is no relationship between the intention to transfer the business to the next generation and process innovation.
Alternative Hypothesis 6a²	Family businesses that intend to transfer the business to the next generation, are associated with higher levels of process innovation.
Null Hypothesis 6a³	There is no relationship between the intention to transfer the business to the next generation and product innovation.
Alternative Hypothesis 6a³	Family businesses that intend to transfer the business to the next generation, are associated with higher levels of product innovation.
Null Hypothesis 6b¹	There is no relationship between the intention to transfer the business to the next generation and relationship conflict.
Alternative Hypothesis 6b¹	Family businesses that intend to transfer the business to the next generation, are associated with higher levels of relationship conflict.
Null Hypothesis 6b²	There is no relationship between the intention to transfer the business to the next generation and task conflict.
Alternative Hypothesis 6b²	Family businesses that intend to transfer the business to the next generation, are associated with higher levels of task conflict.

Family commitment	
Null Hypothesis 7a¹:	There is no relationship between family commitment and managerial innovation.
Alternative Hypothesis 7a¹	Family businesses with high levels of family commitment are associated with higher levels of managerial innovation.
Null Hypothesis 7a²:	There is no relationship between family commitment and process innovation.
Alternative Hypothesis 7a²	Family businesses with high levels of family commitment are associated with higher levels of process innovation.
Null Hypothesis 7a³	There is no relationship between family commitment and product innovation.
Alternative Hypothesis 7a³	Family businesses with high levels of family commitment are associated with higher levels of product innovation.
Null Hypothesis 7b¹	There is no relationship between family commitment and relationship conflict.
Alternative Hypothesis 7b¹	Family businesses with high levels of family commitment are associated with less relationship conflict.
Null Hypothesis 7b²	There is no relationship between family commitment and task conflict.
Alternative Hypothesis 7b²	Family businesses with high levels of family commitment are associated with less task conflict.
Null Hypothesis 7c¹	Family commitment does not influence the relationship between task conflict and managerial innovation.
Alternative Hypothesis 7c¹	Family commitment moderates the relationship between task conflict and managerial innovation.
Null Hypothesis 7c²	Family commitment does not influence the relationship between task conflict and process innovation.
Alternative Hypothesis 7c²	Family commitment moderates the relationship between task conflict and process innovation.
Null Hypothesis 7c³	Family commitment does not influence the relationship between task conflict and product innovation.
Alternative Hypothesis 7c³	Family commitment moderates the relationship between task conflict and product innovation.
Non-economic goals	
Family harmony	
Null Hypothesis 8a¹:	There is no relationship between harmony as is an important goal when making business decisions and managerial innovation.
Alternative Hypothesis 8a^{1a}	Family businesses that regard harmony as important when making business decisions are associated with less managerial innovation.
Alternative Hypothesis 8a^{1b}	Family businesses that regard harmony as important when making business decisions are associated with higher managerial innovation.
Null Hypothesis 8a²:	There is no relationship between harmony as is an important goal when making business decisions and process innovation.
Alternative Hypothesis 8a^{2a}	Family businesses that regard harmony as important when making business decisions are associated with less process innovation.
Alternative Hypothesis 8a^{2b}	Family businesses that regard harmony as important when making business decisions are associated with higher process innovation.

Family harmony (continued)	
Null Hypothesis 8a³	There is no relationship between harmony as is an important goal when making business decisions and product innovation.
Alternative Hypothesis 8a^{3a}	Family businesses that regard harmony as important when making business decisions are associated with less product innovation.
Alternative Hypothesis 8a^{3b}	Family businesses that regard harmony as important when making business decisions are associated with higher product innovation.
Null Hypothesis 8b¹	The importance of harmony as a family goal when making decisions does not influence the relationship between task conflict and managerial innovation.
Alternative Hypothesis 8b¹	Harmony as a non-economic family goal moderates the relationship between task conflict and managerial innovation.
Null Hypothesis 8b²	The importance of harmony as a family goal when making decisions does not influence the relationship between task conflict and process innovation.
Alternative Hypothesis 8b²	Harmony as a non-economic family goal moderates the relationship between task conflict and process innovation.
Null Hypothesis 8b³	The importance of harmony as a family goal when making decisions does not influence the relationship between task conflict and product innovation.
Alternative Hypothesis 8b³	Harmony as a non-economic family goal moderates the relationship between task conflict and product innovation.
Family social status	
Null Hypothesis 9a¹:	There is no relationship between the importance of social status goal when making business decisions and managerial innovation.
Alternative Hypothesis 9a¹	Family businesses that regard social status as important when making business decisions will present higher levels of managerial innovation.
Null Hypothesis 9a²:	There is no relationship between the importance of social status goal when making business decisions and process innovation.
Alternative Hypothesis 9a²	Family businesses that regard social status as important when making business decisions will present higher levels of process innovation.
Null Hypothesis 9a³	There is no relationship between the importance of social status goal when making business decisions and process innovation.
Alternative Hypothesis 9a³	Family businesses that regard social status as important when making business decisions will present higher levels of product innovation.
Null Hypothesis 9b¹	The importance of social status when making decisions does not influence the relationship between task conflict and managerial innovation.
Alternative Hypothesis 9b¹	The importance of social status moderates the relationship between task conflict and managerial innovation.
Null Hypothesis 9b²	The importance of social status when making decisions does not influence the relationship between task conflict and process innovation.
Alternative Hypothesis 9b²	The importance of social status moderates the relationship between task conflict and process innovation.
Null Hypothesis 9b³	The importance of social status when making decisions does not influence the relationship between task conflict and product innovation.
Alternative Hypothesis 9b³	The importance of social status moderates the relationship between task conflict and product innovation.

Family identity	
Null Hypothesis 10a¹:	There is no relationship between managerial innovation and a close link between the business and the identity of the family.
Alternative Hypothesis 10a¹	A close link between the business and the family identity is associated with higher levels of managerial innovation.
Null Hypothesis 10a²:	There is no relationship between process innovation and a close link between the business and the identity of the family.
Alternative Hypothesis 10a²	A close link between the business and the family identity is associated with higher levels of process innovation.
Null Hypothesis 10a³	There is no relationship between product innovation and a close link between the business and the identity of the family.
Alternative Hypothesis 10a³	A close link between the business and the family identity is associated with higher levels of product innovation.
Null Hypothesis 10b¹	A close link between the business and the family identity does not influence the relationship between task conflict and managerial innovation.
Alternative Hypothesis 10b¹	A close link between the business and the family identity moderates the relationship between task conflict and managerial innovation.
Null Hypothesis 10b²	A close link between the business and the family identity does not influence the relationship between task conflict and process innovation.
Alternative Hypothesis 10b²	A close link between the business and the family identity moderates the relationship between task conflict and process innovation.
Null Hypothesis 10b³	A close link between the business and the family identity does not influence the relationship between task conflict and product innovation.
Alternative Hypothesis 10b³	A close link between the business and the family identity moderates the relationship between task conflict and product innovation.
Community contribution	
Null Hypothesis 11a¹:	There is no relationship between the importance of making a meaningful contribution to the community and managerial innovation.
Alternative Hypothesis 11a¹	Family businesses that regard making a meaningful contribution to the community as important are associated with higher levels of managerial innovation.
Null Hypothesis 11a²:	There is no relationship between the importance of making a meaningful contribution to the community and process innovation.
Alternative Hypothesis 11a²	Family businesses that regard making a meaningful contribution to the community as important are associated with higher levels of process innovation.
Null Hypothesis 11a³	There is no relationship between the importance of making a meaningful contribution to the community and product innovation.
Alternative Hypothesis 11a³	Family businesses that regard making a meaningful contribution to the community as important are associated with higher levels of product innovation.
Null Hypothesis 11b¹	Regarding making a meaning contribution to the community as important does not impact the relationship between task conflict and managerial innovation.
Alternative Hypothesis 11b¹	Regarding making a meaning contribution to the community as important moderates the relationship between task conflict and managerial innovation.

Community contribution (continued)	
Null Hypothesis 11b²	Regarding making a meaning contribution to the community as important does not impact the relationship between task conflict and process innovation.
Alternative Hypothesis 11b²	Regarding making a meaning contribution to the community as important moderates the relationship between task conflict and process innovation.
Null Hypothesis 11b³	Regarding making a meaningful contribution to the community as important does not impact the relationship between task conflict and product innovation.
Alternative Hypothesis 11b³	Regarding making a meaning contribution to the community as important moderates the relationship between task conflict and product innovation.
Job creation for the next generation	
Null Hypothesis 12a¹:	There is no relationship between the need to create jobs for the next generation and managerial innovation.
Alternative Hypothesis 12a¹	Family businesses which indicated that they need to create jobs for the next generation are associated with higher levels of managerial innovation.
Null Hypothesis 12a²:	There is no relationship between the need to create jobs for the next generation and process innovation.
Alternative Hypothesis 12a²	Family businesses which indicated that they need to create jobs for the next generation are associated with higher levels of process innovation.
Null Hypothesis 12a³	There is no relationship between creating jobs for the next generation and product innovation.
Alternative Hypothesis 12a³	Family businesses which indicated that they need to create jobs for the next generation are associated with higher levels of product innovation.
Relationship conflict	
Null Hypothesis 13a¹	Relationship conflict does not influence the relationship between task conflict and innovation.
Alternative Hypothesis 13a¹	Relationship conflict moderates the relationship between task conflict and innovation.
Null Hypothesis 13a²	Relationship conflict does not influence the relationship between task conflict and innovation.
Alternative Hypothesis 13a²	Relationship conflict moderates the relationship between task conflict and innovation.
Null Hypothesis 13a³	Relationship conflict does not influence the relationship between task conflict and innovation.
Alternative Hypothesis 13a³	Relationship conflict moderates the relationship between task conflict and innovation.

APPENDIX I:

FULL LIST OF HYPOTHESES WITH RESULTS

Family power: Management power		
Null Hypothesis 1a¹	There is no relationship between the number of family members in the business's management team and management innovation.	Not rejected
Alternative Hypothesis 1a¹	Family businesses with more family members in the business's management team are associated with higher levels of management innovation.	
Null Hypothesis 1a²	There is no relationship between the number of family members in the business's management team and process innovation.	Not rejected
Alternative Hypothesis 1a²	Family businesses with more family members in the business's management team are associated with higher levels of process innovation.	
Null Hypothesis 1a³	There is no relationship between the number of family members in the business's management team and product innovation.	Not rejected
Alternative Hypothesis 1a³	Family businesses with more family members in the business's management team are associated with higher levels of product innovation.	
Hypothesis 1b¹	There is no relationship between the number of family members in the business's management team and relationship conflict.	Not rejected
Alternative Hypothesis 1b¹	Family businesses with more family members in the business's management team are associated with higher levels of relationship conflict.	
Null Hypothesis 1b²	There is no relationship between the number of family members in the business's management team and task conflict.	Not rejected
Alternative Hypothesis 1b²	Family businesses with more family members in the business's management team will present higher levels of task conflict.	
Experience: Business age and Innovation		
Null Hypothesis 2a¹	There is no relationship between business age and managerial innovation.	Not rejected
Alternative Hypothesis 2a^{1a}	Younger family businesses are associated with higher levels of managerial innovation.	
Alternative Hypothesis 2a^{1b}	Older family businesses are associated with higher levels of managerial innovation.	
Null Hypothesis 2a²	There is no relationship between business age and process innovation.	
Alternative Hypothesis 2a^{2a}	Younger family businesses are associated with higher levels of process innovation.	

Alternative Hypothesis 2a^{2b}:	Older family businesses are associated with higher levels of process innovation.	Accepted
Null Hypothesis 2a³:	There is no relationship between business age and product innovation.	Not rejected
Alternative Hypothesis 2a^{3a}:	Younger family businesses are associated with higher levels of product innovation.	
Alternative Hypothesis 2a^{3b}:	Older family businesses are associated with higher levels of product innovation.	
Experience: Managing generation and Innovation		
Null Hypothesis 2b¹	There is no relationship between the managing generation and managerial innovation.	Not rejected
Alternative Hypothesis 2b^{1a}	Earlier generation family businesses are associated with higher levels of managerial innovation.	
Alternative Hypothesis 2b^{1b}	Later generation family businesses are associated with higher levels of managerial innovation.	
Null Hypothesis 2b²	There is no relationship between the managing generation and process innovation.	
Alternative Hypothesis 2b^{2a}:	Earlier generation family businesses are associated with higher levels of process innovation.	
Alternative Hypothesis 2b^{2b}:	Later-generation family businesses are associated with higher levels of process innovation.	Accepted
Null Hypothesis 2b³	There is no relationship between managing generation and product innovation.	Not rejected
Alternative Hypothesis 2b^{3a}:	Early-generation family businesses are associated with higher levels of product innovation.	
Alternative Hypothesis 2b^{3b}	Later-generation family businesses are associated with higher levels of product innovation.	
Experience: Business age and Conflict		
Null Hypothesis 2c¹	There is no relationship between business age and relationship conflict.	Not rejected
Alternative Hypothesis 2c¹	Older family businesses are associated with higher levels of relationship conflict.	
Null Hypothesis 2c²	There is no relationship between business age and task conflict.	Not rejected
Alternative Hypothesis 2c²:	Older family businesses are associated with higher levels of task conflict.	
Experience: Managing Generation and Conflict		
Null Hypothesis 2d¹	There is no relationship between the managing generation and relationship conflict.	Not rejected
Alternative Hypothesis 2c¹	Later-generation family businesses are associated with higher levels of relationship conflict.	
Null Hypothesis 2c²	There is no relationship between the managing generation and task conflict.	Not rejected
Alternative Hypothesis 2c²:	Later generation family businesses are associated with higher levels of task conflict.	

Generational overlap: Management		
Null Hypothesis 3a¹	There is no relationship between the number of generations involved in the management of the family business and managerial innovation.	Not rejected
Alternative Hypothesis 3a¹	Family businesses where more than one generation are involved in the management of the business, are associated with higher levels of managerial innovation.	
Null Hypothesis 3a²	There is no relationship between the number of generations involved in the management of the family business and process innovation.	Not rejected
Alternative Hypothesis 3a²	Family businesses where more than one generation are involved in the management of the business, are associated with higher levels of process innovation.	
Null Hypothesis 3a³	There is no relationship between the number of generations involved in the management of the family business and product innovation.	Not rejected
Alternative Hypothesis 3a³	Family businesses where more than one generation are involved in the management of the business, are associated with higher levels of product innovation.	
Null Hypothesis 3b¹	There is no relationship between the number of generations involved in the management of the family business and relationship conflict.	Not rejected
Alternative Hypothesis 3b¹	Family businesses where more than one generation are involved in the management of the business, are associated with higher levels of relationship conflict.	
Null Hypothesis 3b²	There is no relationship between the number of generations involved in the management of the family business and task conflict.	Not rejected
Alternative Hypothesis 3b²	Family businesses where more than one generation are involved in the management of the business, are associated with higher levels of task conflict.	
Generational overlap: Ownership		
Null Hypothesis 4a¹	There is no relationship between ownership dispersion between generations and managerial innovation.	Not rejected
Alternative Hypothesis 4a¹	Family businesses where ownership is dispersed between more than one generation, are associated with higher levels of managerial innovation.	
Null Hypothesis 4a²	There is no relationship between ownership dispersion between generations and process innovation.	Not rejected
Alternative Hypothesis 4a²	Family businesses where ownership is dispersed between more than one generation, are associated with higher levels of process innovation.	
Null Hypothesis 4a³	There is no relationship between ownership dispersion between generations and product innovation.	Not rejected
Alternative Hypothesis 4a³	Family businesses where ownership is dispersed between more than one generation, are associated with higher levels of product innovation.	

Null Hypothesis 4b¹	There is no relationship between ownership dispersion between generations and relationship conflict.	Not rejected
Alternative Hypothesis 4b¹	Family businesses where ownership is dispersed between more than one generation, are associated with higher levels of relationship conflict.	
Null Hypothesis 4b²	There is no relationship between ownership dispersion between generations and task conflict.	Not rejected
Alternative Hypothesis 4b²	Family businesses where ownership is dispersed between more than one generation, are associated with higher levels of task conflict.	
Goal alignment: Innovation		
Null Hypothesis 5a¹	There is no relationship between whether goals are similar across generations and managerial innovation.	
Alternative Hypothesis 5a¹	When the goals of different generations are similar, the business will present higher levels of managerial innovation.	Accepted
Null Hypothesis 5a²	There is no relationship between whether goals are similar across generations and process innovation.	
Alternative Hypothesis 5a²	When the goals of different generations are similar, the business will present higher levels of process innovation.	Accepted
Null Hypothesis 5a³	There is no relationship between whether goals are similar across generations and product innovation.	
Alternative Hypothesis 5a³	When the goals of different generations are similar, the business will present higher levels of product innovation.	Accepted
Null Hypothesis 5b¹	There is no relationship between whether goals are similar across generations and relationship conflict.	
Alternative Hypothesis 5b¹	When the goals of different generations are similar, the business will present lower levels of relationship conflict.	Accepted
Null Hypothesis 5b²	There is no relationship between whether goals are similar across generations and task conflict.	
Alternative Hypothesis 5b²	When the goals of different generations are similar, the business will present lower levels of task conflict.	Accepted
Null Hypothesis 5c¹	Whether goals between generations are similar does not impact the relationship between task conflict and managerial innovation	Not rejected
Alternative Hypothesis 5c¹	The relationship between task conflict and managerial innovation is moderated by whether the goals between generations are similar.	
Null Hypothesis 5c²	Whether goals between generations are similar does not impact the relationship between task conflict and managerial innovation	Not rejected
Alternative Hypothesis 5c²	The relationship between task conflict and process innovation is moderated by whether the goals between generations are similar.	
Null Hypothesis 5c³	Whether goals between generations are similar does not impact the relationship between task conflict and product innovation	Not rejected
Alternative Hypothesis 5c³	The relationship between task conflict and product innovation is moderated by whether the goals between generations are similar.	

Intention of generational transfer		
Null Hypothesis 6a¹	There is no relationship between the intention to transfer the business to the next generation and managerial innovation.	Not rejected
Alternative Hypothesis 6a¹	Family businesses that intend to transfer the business to the next generation, are associated with higher levels of managerial innovation.	
Null Hypothesis 6a²	There is no relationship between the intention to transfer the business to the next generation and process innovation.	
Alternative Hypothesis 6a²	Family businesses that intend to transfer the business to the next generation, are associated with higher levels of process innovation.	Accepted
Null Hypothesis 6a³	There is no relationship between the intention to transfer the business to the next generation and product innovation.	
Alternative Hypothesis 6a³	Family businesses that intend to transfer the business to the next generation, are associated with higher levels of product innovation.	Accepted
Null Hypothesis 6b¹	There is no relationship between the intention to transfer the business to the next generation and relationship conflict.	Not rejected
Alternative Hypothesis 6b¹	Family businesses that intend to transfer the business to the next generation, are associated with higher levels of relationship conflict.	
Null Hypothesis 6b²	There is no relationship between the intention to transfer the business to the next generation and task conflict.	Not rejected
Alternative Hypothesis 6b²	Family businesses that intend to transfer the business to the next generation, are associated with higher levels of task conflict.	
Family commitment		
Null Hypothesis 7a¹:	There is no relationship between family commitment and managerial innovation.	
Alternative Hypothesis 7a¹	Family businesses with high levels of family commitment are associated with higher levels of managerial innovation.	Accepted
Null Hypothesis 7a²:	There is no relationship between family commitment and process innovation.	
Alternative Hypothesis 7a²	Family businesses with high levels of family commitment are associated with higher levels of process innovation.	Accepted
Null Hypothesis 7a³	There is no relationship between family commitment and product innovation.	
Alternative Hypothesis 7a³	Family businesses with high levels of family commitment are associated with higher levels of product innovation.	Accepted
Null Hypothesis 7b¹	There is no relationship between family commitment and relationship conflict.	
Alternative Hypothesis 7b¹	Family businesses with high levels of family commitment are associated with less relationship conflict.	Accepted
Null Hypothesis 7b²	There is no relationship between family commitment and task conflict.	
Alternative Hypothesis 7b²	Family businesses with high levels of family commitment are associated with less task conflict.	Accepted

Null Hypothesis 7c¹	Family commitment does not influence the relationship between task conflict and managerial innovation.	Not rejected
Alternative Hypothesis 7c¹	Family commitment moderates the relationship between task conflict and managerial innovation.	
Null Hypothesis 7c²	Family commitment does not influence the relationship between task conflict and process innovation.	
Alternative Hypothesis 7c²	Family commitment moderates the relationship between task conflict and process innovation.	Accepted
Null Hypothesis 7c³	Family commitment does not influence the relationship between task conflict and product innovation.	Not rejected
Alternative Hypothesis 7c³	Family commitment moderates the relationship between task conflict and product innovation.	
Non-economic goals		
Family harmony		
Null Hypothesis 8a¹:	There is no relationship between harmony as is an important goal when making business decisions and managerial innovation.	
Alternative Hypothesis 8a^{1a}	Family businesses that regard harmony as important when making business decisions are associated with less managerial innovation.	
Alternative Hypothesis 8a^{1b}	Family businesses that regard harmony as important when making business decisions are associated with higher managerial innovation.	Accepted
Null Hypothesis 8a²:	There is no relationship between harmony as is an important goal when making business decisions and process innovation.	
Alternative Hypothesis 8a^{2a}	Family businesses that regard harmony as important when making business decisions are associated with less process innovation.	
Alternative Hypothesis 8a^{2b}	Family businesses that regard harmony as important when making business decisions are associated with more process innovation.	Accepted
Null Hypothesis 8a³	There is no relationship between harmony as is an important goal when making business decisions and product innovation.	
Alternative Hypothesis 8a^{3a}	Family businesses that regard harmony as important when making business decisions are associated with less product innovation.	
Alternative Hypothesis 8a^{3b}	Family businesses that regard harmony as important when making business decisions are associated with higher product innovation.	Accepted
Null Hypothesis 8b¹	The importance of harmony as a family goal when making decisions does not influence the relationship between task conflict and managerial innovation.	
Alternative Hypothesis 8b¹	Harmony as a non-economic family goal moderates the relationship between task conflict and managerial innovation.	Accepted

Null Hypothesis 8b²	The importance of harmony as a family goal when making decisions does not influence the relationship between task conflict and process innovation.	Not rejected
Alternative Hypothesis 8b²	Harmony as a non-economic family goal moderates the relationship between task conflict and process innovation.	
Null Hypothesis 8b³	The importance of harmony as a family goal when making decisions does not influence the relationship between task conflict and product innovation.	Not rejected
Alternative Hypothesis 8b³	Harmony as a non-economic family goal moderates the relationship between task conflict and product innovation.	
Family social status		
Null Hypothesis 9a¹:	There is no relationship between the importance of social status goal when making business decisions and managerial innovation.	
Alternative Hypothesis 9a¹	Family businesses that regard social status as important when making business decisions will present higher levels of managerial innovation.	Accepted
Null Hypothesis 9a²:	There is no relationship between the importance of social status goal when making business decisions and process innovation.	
Alternative Hypothesis 9a²	Family businesses that regard social status as important when making business decisions will present higher levels of process innovation.	Accepted
Null Hypothesis 9a³	There is no relationship between the importance of social status goal when making business decisions and process innovation.	Not rejected
Alternative Hypothesis 9a³	Family businesses that regard social status as important when making business decisions will present higher levels of product innovation.	
Null Hypothesis 9b¹	The importance of social status when making decisions does not influence the relationship between task conflict and managerial innovation.	Not rejected
Alternative Hypothesis 9b¹	The importance of social status moderates the relationship between task conflict and managerial innovation.	
Null Hypothesis 9b²	The importance of social status when making decisions does not influence the relationship between task conflict and process innovation.	Not rejected
Alternative Hypothesis 9b²	The importance of social status moderates the relationship between task conflict and process innovation.	
Null Hypothesis 9b³	The importance of social status when making decisions does not influence the relationship between task conflict and product innovation.	Not rejected
Alternative Hypothesis 9b³	The importance of social status moderates the relationship between task conflict and product innovation.	

Family identity		
Null Hypothesis 10a¹:	There is no relationship between managerial innovation and a close link between the business and the identity of the family.	
Alternative Hypothesis 10a¹	A close link between the business and the family identity is associated with higher levels of managerial innovation.	Accepted
Null Hypothesis 10a²:	There is no relationship between process innovation and a close link between the business and the identity of the family.	
Alternative Hypothesis 10a²	A close link between the business and the family identity is associated with higher levels of process innovation.	Not rejected
Null Hypothesis 10a³	There is no relationship between product innovation and a close link between the business and the identity of the family.	Not rejected
Alternative Hypothesis 10a³	A close link between the business and the family identity is associated with higher levels of product innovation.	
Null Hypothesis 10b¹	A close link between the business and the family identity does not influence the relationship between task conflict and managerial innovation.	Not rejected
Alternative Hypothesis 10b¹	A close link between the business and the family identity moderates the relationship between task conflict and managerial innovation.	
Null Hypothesis 10b²	A close link between the business and the family identity does not influence the relationship between task conflict and process innovation.	Not rejected
Alternative Hypothesis 10b²	A close link between the business and the family identity moderates the relationship between task conflict and process innovation.	
Null Hypothesis 10b³	A close link between the business and the family identity does not influence the relationship between task conflict and product innovation.	Not rejected
Alternative Hypothesis 10b³	A close link between the business and the family identity moderates the relationship between task conflict and product innovation.	
Community contribution		
Null Hypothesis 11a¹:	There is no relationship between the importance of making a meaningful contribution to the community and managerial innovation.	
Alternative Hypothesis 11a¹	Family businesses that regard making a meaningful contribution to the community as important are associated with higher levels of managerial innovation.	Accepted
Null Hypothesis 11a²:	There is no relationship between the importance of making a meaningful contribution to the community and process innovation.	
Alternative Hypothesis 11a²	Family businesses that regard making a meaningful contribution to the community as important are associated with higher levels of process innovation.	Accepted

Null Hypothesis 11a³	There is no relationship between the importance of making a meaningful contribution to the community and product innovation.	
Alternative Hypothesis 11a³	Family businesses that regard making a meaningful contribution to the community as important are associated with higher levels of product innovation.	Accepted
Null Hypothesis 11b¹	Regarding making a meaning contribution to the community as important does not impact the relationship between task conflict and managerial innovation.	Not rejected
Alternative Hypothesis 11b¹	Regarding making a meaning contribution to the community as important moderates the relationship between task conflict and managerial innovation.	
Null Hypothesis 11b²	Regarding making a meaning contribution to the community as important does not impact the relationship between task conflict and process innovation.	Not rejected
Alternative Hypothesis 11b²	Regarding making a meaning contribution to the community as important moderates the relationship between task conflict and process innovation.	
Null Hypothesis 11b³	Regarding making a meaningful contribution to the community as important does not impact the relationship between task conflict and product innovation.	Not rejected
Alternative Hypothesis 11b³	Regarding making a meaning contribution to the community as important moderates the relationship between task conflict and product innovation.	
Job creation for the next generation		
Null Hypothesis 12a¹:	There is no relationship between the need to create jobs for the next generation and managerial innovation.	
Alternative Hypothesis 12a¹	Family businesses which indicated that they need to create jobs for the next generation are associated with higher levels of managerial innovation.	Accepted
Null Hypothesis 12a²:	There is no relationship between the need to create jobs for the next generation and process innovation.	
Alternative Hypothesis 12a²	Family businesses which indicated that they need to create jobs for the next generation are associated with higher levels of process innovation.	Accepted
Null Hypothesis 12a³	There is no relationship between creating jobs for the next generation and product innovation.	
Alternative Hypothesis 12a³	Family businesses which indicated that they need to create jobs for the next generation are associated with higher levels of product innovation.	Accepted
Null Hypothesis 12b¹	Regarding making a meaningful contribution to the community as important does not impact the relationship between task conflict and managerial innovation.	Not rejected
Alternative Hypothesis 12b¹	Regarding making a meaningful contribution to the community as important moderates the relationship between task conflict and managerial innovation.	

Null Hypothesis 12b²	Regarding making a meaningful contribution to the community as important does not impact the relationship between task conflict and process innovation.	Not rejected
Alternative Hypothesis 12b²	Regarding making a meaningful contribution to the community as important moderates the relationship between task conflict and process innovation.	
Null Hypothesis 12b³	Regarding making a meaningful contribution to the community as important does not impact the relationship between task conflict and product innovation.	Not rejected
Alternative Hypothesis 12b³	Regarding making a meaningful contribution to the community as important moderates the relationship between task conflict and product innovation.	
Relationship conflict		
Null Hypothesis 13a¹	Relationship conflict does not influence the relationship between task conflict and innovation.	
Alternative Hypothesis 13a¹	Relationship conflict moderates the relationship between task conflict and innovation.	Accepted
Null Hypothesis 13a²	Relationship conflict does not influence the relationship between task conflict and innovation.	
Alternative Hypothesis 13a²	Relationship conflict moderates the relationship between task conflict and innovation.	Accepted
Null Hypothesis 13a³	Relationship conflict does not influence the relationship between task conflict and innovation.	Not rejected
Alternative Hypothesis 13a³	Relationship conflict moderates the relationship between task conflict and innovation.	

APPENDIX J: CERTIFICATION OF STATISTICAL ANALYSES PERFORMED



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2019-01-31

To whom it may concern

CERTIFICATION OF STATISTICAL ANALYSIS PERFORMED

This is to certify, that I, Martin Kidd, director of the Centre for Statistical Consultation, assisted student Edo Heyns with the statistical aspects of his PhD dissertation.

According to my knowledge and judgement, the selection of statistical methods were appropriate, and correctly calculated.

MARTIN KIDD

Director, Centre for Statistical Consultation, University of Stellenbosch.

Website: <http://www.sun.ac.za/english/research-innovation/csc/staff/martin-kidd-cv>



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**APPENDIX K:
CERTIFICATION THAT THIS DISSERTATION WAS EDITED BY A
QUALIFIED LINGUIST**

To whom it may concern

7 November 2019

This is to certify, that I, Mariette Nortjé, am a qualified language practitioner who specialises in academic editing. I have been on the list of recommended academic editors of the University of Stellenbosch Business School since 2003.

I acknowledge that I have edited all technical aspects (formatting and references) and language aspects of Etienne David-Olivier Heyns' dissertation and that complete feedback was given to the student. I also edited the student's report in response to the examiners' feedback.


The title of the dissertation submitted in fulfilment of the requirements for the degree Doctor of Philosophy in Business Management and Administration at the Faculty of Economic and Management Sciences at Stellenbosch University is:

Conflict, innovation and the moderating role of family influence in the South African wine industry.

I am confident that the dissertation adheres to the technical and language requirements of the University. The quality of the final dissertation, in terms of language, references and technical aspects, remains the student's responsibility.

You are welcome to contact me if you have any queries.

Kind regards



Mariette Nortjé

BA Law (University of Stellenbosch)

Post-graduate diploma in Editing and Translating *cum laude* (US)

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