

Electronic Performance Assessment: Applying Microsoft Business Scorecards Accelerator in a small public sector serving organisation

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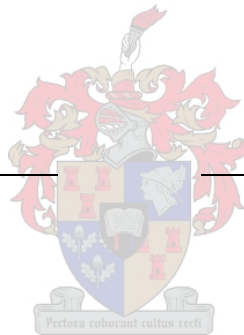


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April 2006

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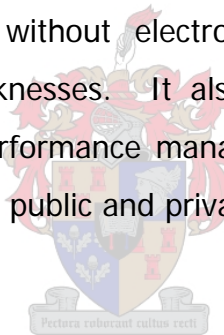
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ABSTRACT

Since the vogue of the New Public Management, public sector organisations pursue solutions to analyse, measure, plan, and manage performance in order to meet the objective of outcomes-based governance. Performance management is a complex and intensive undertaking that emphasise the value of electronic support to establish and sustain performance standards within modern public organisations. Software based on performance management models, such as the balanced scorecard, is globally used to provide a balanced analysis across the scope of an organisation's functions and processes. The study explores and provides viable options for utilising performance management with electronic support in a public sector organisation. The Microsoft Business Scorecards Accelerator is applied to compare theoretically the software results with current organisational outputs established without electronic aid. The research provides a summary of the benefits and weaknesses. It also emphasises the advantages of an electronic system over a manual performance management system to reduce errors and benefit business performance in both public and private sector organisations.



OPSOMMING

Sedert die opgang van die “New Public Management” streef openbare sektororganisasies na oplossings om prestasie te analiseer, meet, beplan en te bestuur om sodoende die doelwitte van uitkomsgebaseerde staatsbestuur te bereik. Prestasiebestuur is ’n komplekse en intensiewe onderneming wat die waarde van elektroniese ondersteuning vir die totstandkoming en steun van prestasiestandaarde binne moderne publieke organisasies beklemtoon. Sagteware, gebaseer op prestasiebestuursmodelle soos die “Balanced Scorecard,” word globaal gebruik om ’n ewewigtige ontleding van ’n organisasie se funksies en prosesse te verskaf. Hierdie studie ondersoek en voorsien lewensvatbare keuses om prestasiebestuur met elektroniese ondersteuning in ’n openbare sektororganisasie aan te wend. Die “Microsoft Business Scorecards Accelerator” word gebruik om die sagteware resultate met die huidige organisatoriese uitsette, wat sonder elektroniese ondersteuning bereik is, teoreties met mekaar te vergelyk. Die navorsing voorsien ’n opsomming van die voordele, swakhede en beklemtoon die voorsprong wat ’n elektroniese sisteem bo ’n handgedrewe prestasie bestuurstelsel bied, om foute te verminder en sakeprestasie in openbare- en privaatsektororganisasies te bevorder.



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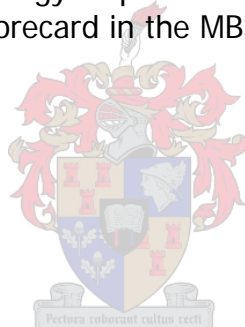
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CHAPTER 1

RESEARCH METHODOLOGY AND ORGANISING OF CHAPTERS

1.1. INTRODUCTION

New Public Management initiated a global awareness for the optimisation of state and public sector organisations in terms of good and outcomes-based governance. Accordingly, the pursuit continued to locate suitable electronic systems, applications, strategies, policies and security solutions to enhance reliable, fair, and transparent public service deliverables and sound internal operations. Experts developed a range of performance management models and software developers emerged with several application solutions to support the new shift in paradigm.

The emphasis of performance in the public sector is moving away from a preoccupation with the activities that are undertaken, and rather focus on the results of those activities, such as service outcomes, employment, safety, responsiveness, or program quality. In other words, the focus is towards outcomes-based governance. Public sector organisations should implement solutions to analyse, measure, plan, and manage performance in order to meet the objective of outcomes-based governance.

Accurate performance measurement provides insight into an organisation's efficiency and effectiveness of its people, processes, and programmes that facilitate appropriate decision-making and management. Performance management is a complex and intensive undertaking that is increased by organisational size, particularly in the public sector. Therefore, electronic support becomes an essential tool to establish and sustain performance standards set in the vision of good-governance. Software based on performance

management models, such as the Balanced Scorecard, is globally used to provide a balanced analysis across the scope of an organisation's functions and processes. This research seeks to explore and provide viable options for applying performance management based on electronic support in a public sector organisation.

1.2. RESEARCH PROBLEM AND OBJECTIVES

The purpose of this study is to establish a frame of reference assisting the paradigm shift towards the application of electronic performance management and decision-making tools in the public sector. The research aim is to analyse and apply the Microsoft Business Scorecards Accelerator in a public sector organisation, and to compare theoretically the software results with current organisational outputs established without electronic aid. Ultimately, the study aims to **establish whether electronic performance management products – i.e. Microsoft Business Scorecards Accelerator – could reasonably contribute to improving public sector performance and operations.** Organisational outputs refer to financial profitability, economic efficiency and effectiveness, service/product specific outputs, customer satisfaction, effective operations, personnel efficiency and productivity.

Key concepts that are elaborated and of significance in the context of this research are performance management, performance measurement, Balanced Scorecard, and performance management software.

1.3. RESEARCH DESIGN AND METHODOLOGY

The research is empirical and qualitative with a case study focus. According to Welman & Kruger, the case study pertains to a limited number of units of

analysis, such as an individual, group or institution, being studied intensively [2001:182].

The unit of analysis is performance management, e-business intelligence and Balanced Scorecard outputs in a public sector organisation that is deficient in employing electronic support software intended for the aforementioned strategies. The selection criteria for an organisation for this case study were based on:

- Available and accessible organisational information resources and support for this venture.
- A public, semi-public, or small public sector serving organisation that utilises traditional methods of performance management without the use of contemporary performance management systems (PMS) or electronic software support.
- The organisation should geographically be within reasonable reach.

Specific organisational information gathered will be established and processed with electronic performance management application based on a holistic contemporary performance management model. Information will depend on the type and focus of the organisation to be selected, but will evidently include financial indicators, turnover of services and customer/citizen satisfaction in non-monetary terms, measurements of operations effectiveness, personnel efficiency and productivity.

The research explores the existing business and performance structure of an organisation that uses conventional performance management measures to establish a basis for further reference and comparison. Subsequently a performance management system based on contemporary performance management models will be established and theoretically applied with electronic software support to the same organisation. The objective of the research is to

explore possible performance advantages for the organisation when measuring performance against a contemporary performance management model with supportive electronic management systems. The theoretical application implies the illustration of the software based on the business and performance context of the organisation. It excludes the application of real performance data and outputs, since this facet requires a comprehensive full-scale implementation of the software, not feasible for the study. This study further proposes the assessment of the MBSA software for potential advantages in performance outputs in relation to a conventional hand driven system.

1.4. OVERVIEW OF CHAPTERS

Chapter 1: This chapter demarcates the field of study and outlines the research methodology. It includes a formulation of research objectives and study goals, including an overview of the proposed study.

Chapter 2: Chapter two provides an overview on the theory of the Balanced Scorecard and the effects of outcomes measures of performance drivers. Various models for performance measurement are discussed before focussing on the Balanced Scorecard model. The chapter also compares manual versus software driven integration of data.

Chapter 3: Chapter three explores Balanced Scorecard software available on the market and criteria for selecting amongst different software packages. The chapter outlines scientific processes for selecting appropriate Balanced Scorecard software based on explicit criteria to evaluate and match software with the needs of an organisation. Available standards and service providers certified by the Balanced Scorecard Collaborative are explored and an overview of the Microsoft Business Scorecards Accelerator software is provided.

Chapter 4: Chapter four investigates the current business structure and performance of Unistel Consultus (Pty) Ltd as an example of a company currently measuring its performance only against financial indicators. The objective of the chapter is to explore changes in the performance rating of the company when measuring performance against a contemporary performance management model and supportive electronic management systems. The chapter provides an overview of the company, including the history and establishment, the nature of its commercial practice and the organisational structure. The company's business system and processes are analysed according to the four Balanced Scorecard perspectives and the key performance indicators identified against which performance of the company is measured.

Chapter 5: Chapter five suggests a provisional and theoretical implementation of an integrated performance measurement and management system to overcome the obstacles of the current system. The chapter utilises the Business Scorecard Accelerator to develop an integrated performance management system. It concentrates on two fundamental aspects for the application of the Balanced Scorecard Accelerator, namely the fifteen steps in designing the Balanced Scorecard, and secondly the six steps of setting up the Balanced Scorecard Accelerator software.

Chapter 6: Chapter six provides a summary of the thesis and concludes with final comments on the benefits and shortcomings of using the Microsoft Business Scorecards Accelerator in designing a Balanced Scorecard for an organisation. It also identifies the limitations of this study and opportunities for further research and investigations.

1.5. LIST OF ABBREVIATIONS AND KEY TERMS

BSC	An abbreviation used for the Balanced Scorecard that is a performance management model developed by Kaplan and Norton (see chapter 2).
EFQM model	The name of any performance management model that pursues the standards of the European Foundation for Quality Management.
GUI	Graphic user interface is the terminology used to describe the visual layout and dialog presentation of a software program or part of it.
ICT	Information and computer technology is the term assigned to electronic/computer infrastructure or support.
KPI	Key performance indicator is the general name for any measurable element of performance.
MBSA	The Microsoft Business Scorecards Accelerator is a software programme based on the Balanced Scorecard and other scorecard methodologies used to measure performance and to assist in performance management.
Objectives	The goal of performance management is part of the perspective of performance management and consists of KPIs
OLAP	Online Analytical Processing describes the manner in which current data are computed simultaneously with a query or access to produce the requested results.
Perspectives	Perspectives of performance management are the main classifications in which a performance management system is categorised.
TQM	Total Quality Management is a performance management model.

CHAPTER 2

ASSESSING AND SELECTING SUITABLE PERFORMANCE MANAGEMENT MODELS

2.1. INTRODUCTION

The public service is one of the largest and diverse service delivery systems employed globally. The responsibility of service delivery presents a major challenge to all spheres of government, especially to local authorities with noticeably the most restricted resources. Consequently management of these services and resources has become predominantly performance driven to cope with the vast obligations and anticipatory needs in the public domain. Historically, performance management and measurement was largely concentrated on financial management. However, the dynamic nature of the public sector, together with environments that are more complex, higher public expectations, demand for greater accountability, and the need for more effective approaches required the development of more holistic models for performance assessment and management (IDeA, 2004: 2).

Scholars agree that according to this new public management paradigm consideration should be given to the results of service delivery in terms of sustainable developmental outputs and outcomes, rather than to the resources applied (Cloete et al, 2003: 6). It involves a substantial programme of privatisation, the introduction of competition and attempts to make public services more responsive to its customers, applying business-like management techniques with a stronger focus on measured performance (Sanderson, 2001: 297-298). This approach to public sector reform has become known as a new public management. Subsequently, holistic performance management models became essential tools for pursuing sustainable service delivery outcomes within

the New Public Management (NPM) paradigm. Gruening lists the distinct characteristics of the New Public Management as follows (1998: 4-5):

- Budget Cuts
- Accountability For Performance
- Privatisation
- Decentralisation
- Separation of Provision and Production
- Performance Measurement
- Contracting Out
- Improved Accounting
- User Charges
- Improved Financial Management
- Legal Budget/Spending Constraints
- Policy Analysis and Evaluation
- Rationalisation or Streamlining of Administrative Structures
- Vouchers
- Performance Auditing
- Democratisation and Citizen Participation
- Strategic Planning/Management
- Competition
- Changed Management Style
- Freedom to Manage (Flexibility)
- Personnel Management (Incentives)
- Separation of Politics and Administration
- More Use of Information Technology
- Rationalisation of Jurisdictions
- Improved Regulation
- Customer Concept (One-Stop-Shops, Case management)

This chapter firstly look at the Performance Management paradigm and appropriate legislation before exploring various possible models of performance management. Thereafter an overview is provided on the theory of the Balanced Scorecard and of the effects of outcomes measures of performance drivers. Subsequently, the process for establishing a Balanced Scorecard, and critique on the Balanced Scorecard are discussed. Finally, manual versus software driven integration of data is considered.

2.2. THE PERFORMANCE MANAGEMENT PARADIGM

Globally the conventional preferred method of regulating public service organisations through managerialism also referred to as 'technology of control' is a paramount form of bureaucratic control. Conversely, with competitive tendering and the growth of internal markets, in decentralised forms of management, and in the growth of performance management techniques, there is a move towards new, post-bureaucratic forms of control. Appropriate

Performance Management in government spheres represents a highly formalised and centralised strategy for 'steering' public sector organisations in which the use of incentives and sanctions and the setting of meta-level rules can be an extremely effective form of hands-off control that could prove much more powerful than hands-on regulation and direction. In a more evolved form, Performance Management emphasise control and accountability that encourage the development of a particular form of evaluation as a contribution to the control of the periphery by the centre, particularly in the management of resources. It underlines values of economy, efficiency, value for money and effectiveness or performance. As a result, it expresses that evaluation summarise conclusively, delivering authoritative judgements, based as far as possible on performance indicators or quantitative measures of input-output relationships and outcomes and set against predefined targets and standards (Sanderson, 2001: 300-301).

2.2.1. Defining Performance Management

Performance Management "may be narrowly viewed as a set of tools and techniques which can be used by managers and politicians to manage the performance within their own organisations, or it can be viewed more widely as a pattern of thinking that results from as wide-ranging set of changing political, economic, social and ethical pressures that have impacted on local authorities in ways that are more extensive than simply the deployment of specific techniques" (Rogers, 1999: 2). "The interrelated processes which ensure that all the activities and people in a local government contribute as effectively as possible to its objectives, in a way which enables a local authority to learn and thereby improve its services to the community" (Rogers, 1999: 9). "The basic aims of performance management are to share understanding about what is to be achieved, to develop the capacity of people and the organisation to achieve it,


and to provide the support and guidance individuals and teams need to improve their performance” (Armstrong & Baron 1998: 51).

The definitions to Performance Management is evidently broad with diverse focus and therefore it is encapsulated as a method of management by utilising techniques to quantify performance assessment results against predefined objectives or targets in order to manage towards improving outputs and outcomes.

2.3. PERFORMANCE MANAGEMENT LEGISLATION

2.3.1. The Constitution of South Africa

The Constitution of the Republic of South Africa, 1996 (Act 108 of 1996) set the framework for basic principles to support public service:

- 
- The promotion and maintenance of a high standard of personal ethics.
 - The efficient, economic and effective use of resources.
 - Public administration must be development-oriented.
 - Services must be provided impartially, fairly and equitably without bias.
 - Public administration must be accountable.
 - Good human resource management and career development practices must be cultivated to maximise human potential.

2.3.2. Municipal Structures Act.

The Local Government: Municipal Structures Act, 1998 (Act 117 of 1998) lay down the law to facilitate access of service information to communities and empower them to demand better services to compel municipalities to be more accountable (Department of Provincial and Local Government, 2001: 8).

According to section 19 of the Municipal Structures Act a municipality must annually review:

- The needs of the community.
- Its priorities to meet those needs.
- Its processes for involving the community.
- Its organisational and delivery mechanisms for meeting the needs of the community.
- Its overall performance.

2.3.3. Municipal Systems Act

The Local Government: Municipal Systems Act, 2000 (Act 32 of 2000) specify complete directives that enable municipalities to establish and implement a performance management system with requirements to:

- Set targets, monitor and review performance based on indicators linked to their IDP.
- Publish an annual report on performance for the councillors, staff, the public and other spheres of government.
- Incorporate and report on a set of general indicators prescribed nationally by the Minister responsible for local government.
- Conduct an internal audit on performance before tabling the report.
- Involve the community in setting indicators and targets and reviewing municipal performance (Smit, 2003).

2.3.4. Additional Policy

Policy that further support and refer to performance management in local government in South Africa:

- White Paper on Transforming Public Service Delivery (Batho Pele White Paper), 1997
- The White Paper on Local Government, 1998
- Local Government: Municipal Planning and Performance Management Regulations, 2001
- Local Government: Municipal Finance Management Bill, 2001

2.4. PERFORMANCE MANAGEMENT MODELS

There are many off-the-shelf performance management products available, each with its unique layout and theoretical basis. Figure 2.1. illustrates the basic building blocks required of a performance management model with the objective to improve and sustain performance in an organisation (IDeA, 2004: 2). EFQM, The Baldrige Award Framework, Kaizen method of continuous incremental improvements, Six Sigma model, and Balanced Scorecard are five contemporary performance management models described below.

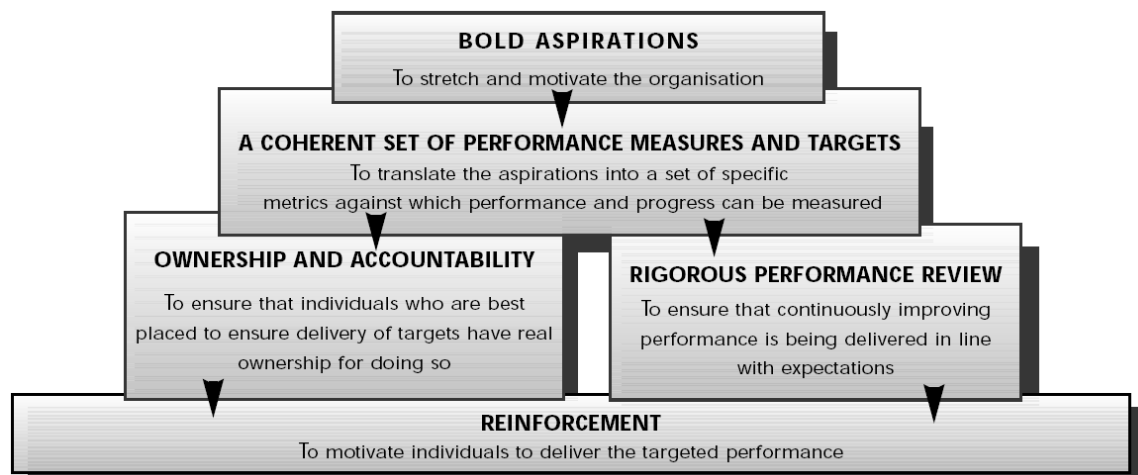


Figure 2.1.: The building blocks of a performance management model.
(HM-Treasury et al, 2001: 9)

2.4.1. The EFQM Model

The European Foundation for Quality Management (EFQM) Model is a Total Quality Management (TQM) framework based on nine measures grouped in organisation inputs (processes) and outputs. Five of the input and/or process criteria are called 'Enablers' and the four output criteria are termed 'Results'. The model focuses on the principle that excellent results relating to Performance, Customers, People, and Society are accomplished through Leadership, Policy and Strategy, Partnerships and Resources, and Processes (Oakland, 2004). Figure 2.2. illustrates the relation between the nine distinctive measures.

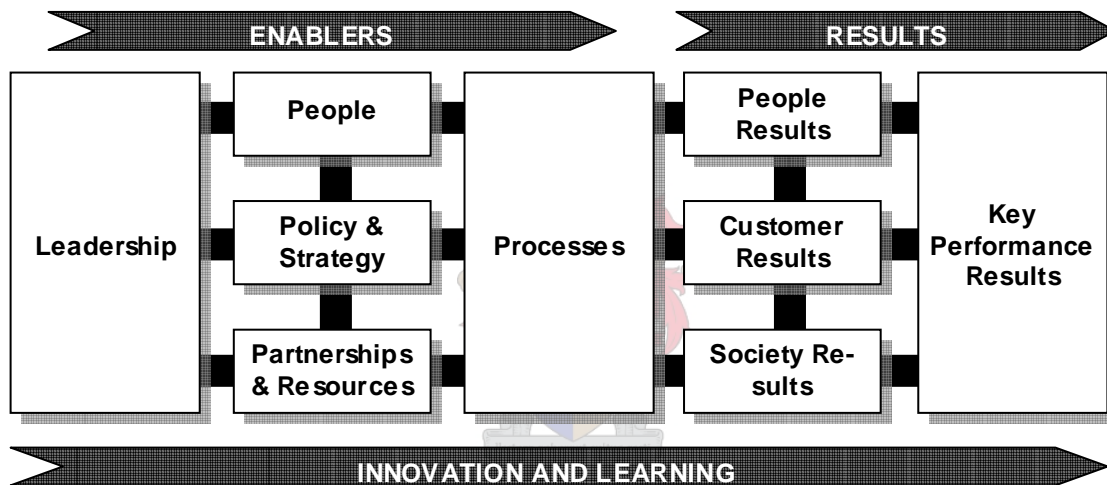


Figure 2.2.: EFQM Model (Oakland, 2004)

2.4.2. The Baldrige Award framework

The Baldrige Award Framework was designed to encourage quality awareness based on a measurement score of seven categories of performance standards. It can be applied to assess management systems and identify key improvement areas. The seven performance categories comprise of (Blazey, 2004):

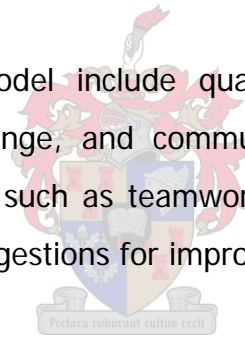
- Leadership
- Strategic Planning
- Customer and Market Focus

- Measurement, Analysis, Knowledge Management
- Human Resource Focus
- Process Management
- Business Results

2.4.3. The Kaizen method of continuous incremental improvements

The Kaizen method of continuous incremental improvements is a combination of Total Quality Control, Quality Control circles, small group activities, and labour relations. It is a Japanese management concept applying continuous incremental change, rather than short-term radical change. When translated the Japanese word, Kaizen, means change to become good (Imai, 2004).

The key elements of the model include quality, effort, involvement of all employees, willingness to change, and communication. The Kaizen concept originated from fundamentals, such as teamwork, personal discipline, improved morale, quality circles, and suggestions for improvement (Imai, 2004).



The Kaizen model is controversial in terms of Western performance management models, but it proves to be successful within cultures that are people-discipline-orientated and acceptable because of its fundamental qualities (Imai, 2004).

2.4.4. The Six Sigma model

The Six Sigma model is based on the statistical work of Joseph Juran, a Japanese pioneer of quality management. The approach requires extreme discipline that improves an organisation's developing and delivering near-perfect products and services. The Greek term and statistical unit of measure, "Sigma," is used to indicate the deviation of a measurement from its state of perfection. Three to four sigma are generally acceptable as a quality control measure, whereas six

sigma indicates a failure rate of only 3.4 defects per million products or a 99.99966% success rate (Value..., 2004; Yoon, 2001)).

The benefit of Six Sigma is seen especially in companies' profits, employee productivity, and stock price. As an example Motorola sales grew between 1987 and 1997 at a rate of 17%, stock at 16,5%, and profit at 17,2% a year (Yoon, 2001).

2.4.5 The Balanced Scorecard

The Balanced Scorecard was developed to improve and maintain the performance of an organisation in addition to using conventional financial evaluations. Financial evaluations, derived from financial statements, have a limited performance value for new organisations that should still develop the capacity to generate profit. Although new organisations may be in an upward performance spiral, this trend would not be revealed by traditional evaluation methods in the elementary financial statements of the organisation. In such circumstances, the Balanced Scorecard provides the advantage of a balance between today's spending and operational processes and tomorrow's planning, growth and vision (Olve et al, 1999: 6).

2.5. CRITIQUE ON PERFORMANCE MANAGEMENT MODELS

The self-assessment processes of EFQM and Baldrige as performance excellence models are very demanding, in some situations, they are overly scrupulous, and they fail to challenge specific attributes. Furthermore, the details of the self-assessment slow down progress and improvement occurs incrementally. Furthermore, evaluations are subjective and vary between users (IDeA, 2004: 13 -14).

The Kaizen model focuses on improving existing processes and fails to take a holistic approach. It entails quick and intensive training, which requires skilled professionals that could be costly. Management support needs to be developed, moreover be evident throughout the training and should subsequently, be maintained afterwards (IDeA, 2004: 37).

The Six Sigma model requires strong statistical skills and methodologies. It is complex to explain to employees, and thus difficult to elicit support and initiate participation towards performance improvement. The model may be inappropriate in situations where processes are unclear (IDeA, 2004: 42).

The Balanced Scorecard model may encourage short-term goals, rather than encouraging innovation and transformation with persistent effort. The perspectives of the Balanced Scorecard need adjustment to meet the complex nature of the public sector and there is also a risk of improper customisation (IDeA, 2004: 10-11).

The Balanced Scorecard is widely used worldwide and well supported throughout the public sector (IDeA, 2004: 10; Amaratunga et al, 2001: 187). Amongst others, one of the most significant qualifying features for its selection in this study is that the model is of simple construct and easy to understand in comparison with other above-mentioned models. A crucial factor when the aim is to involve all employees, which entails additional training and ownership of the initiative. Consequently, this improves collaboration and awareness by employees with less expense to training needs. The structure of the model lends itself to easily adapt and customise for public sector use. Hence the Balanced Scorecard was selected as the performance management model to evaluate in this study.

2.6. THEORY ON THE BALANCED SCORECARD

The Balanced Scorecard model was first published in 1992 by Robert S. Kaplan and David P. Norton in the first issue of *Harvard Business Review* (71-79). The Balanced Scorecard is aimed at linking the short-term operational control of an organisation with its long-term vision and strategy. It enables management to focus on critical key factors in significant target areas. In other words, the organisation is forced to monitor day-to-day operational activities that subsequently influence tomorrow's activities (Olve et al, 1999: 6).

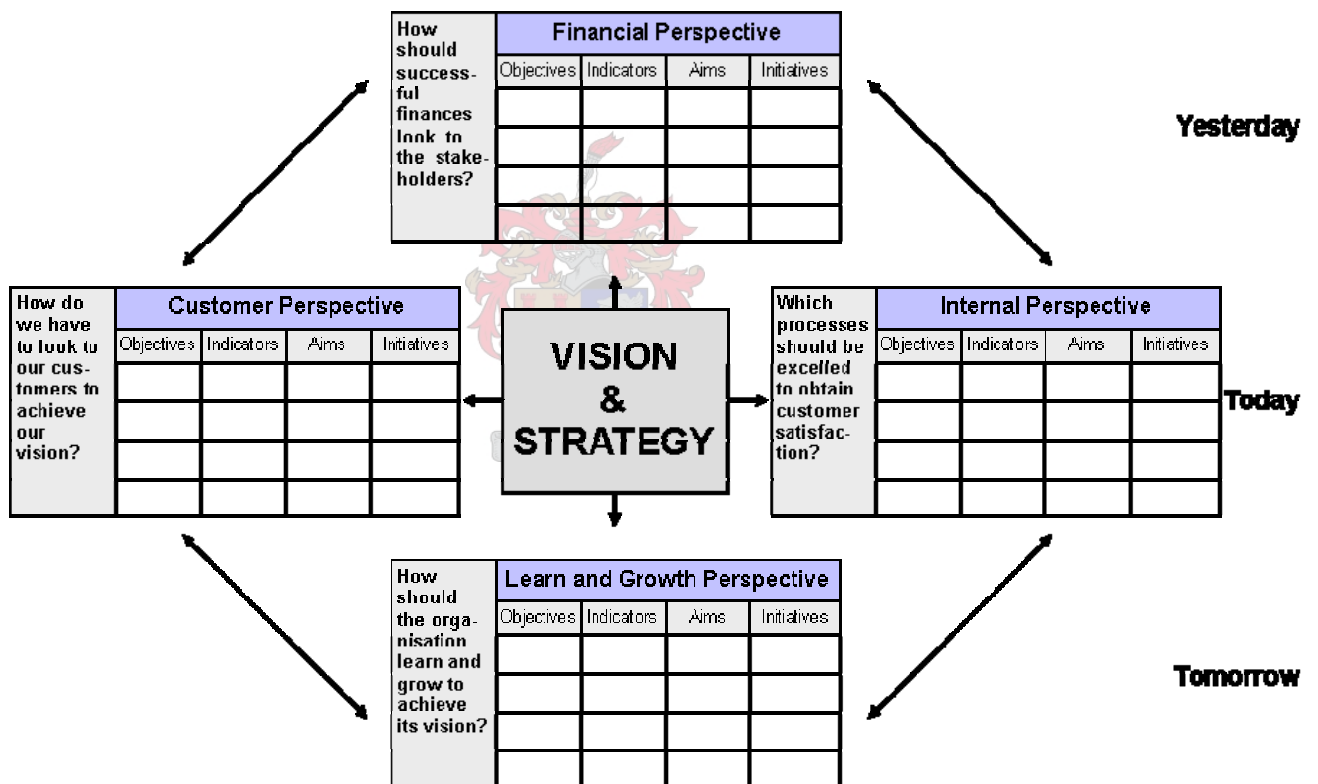


Figure 2.3.: Balanced Scorecard (Olve et al, 1999: 6).

The concept of the Balanced Scorecard indicated in Figure 2.3. is based on three time dimensions: yesterday, today and tomorrow. The time dimension is focused on specific perspectives, namely the financial perspective, client perspective, internal processes perspective, and the learning and growth perspective (Olve et al, 1999: 6).

The Balanced Scorecard broadens an organisation's focus beyond the summary of financial measures to the continuous monitoring of non-financial key indicator ratios. "Corporate executives can now measure how their business units create value for current and future customers and how they must enhance internal capabilities and the investment in people, systems, and procedures necessary to improve future performance " (Kaplan & Norton, 1996:8). The perspectives are discussed in more detail later in this chapter. The motivation for performance and performance drivers are explored prior to discussing the Balanced Scorecard, as a tool for improving performance of an organisation.

2.7. OUTCOMES MEASUREMENT OF PERFORMANCE DRIVERS

The Balanced Scorecard links outcomes measurements with measurements for consumption and utilisation. The identification and emphasising of performance drivers confirms that future outcomes factors should be measured (Olve et al, 1999: 8-9). The input and output model in Figure 2.4. shows how goals are reached by means of a cyclical process of resource inputs until results are achieved. Outputs in the form of results produce particular outcomes, which are called effects that influence inputs within a specific period. Effects are the action or influence, which results or outcomes have on particular inputs. It may be concluded that effects could influence activities, growth, and performance. Resources could only be evaluated as successful after identifying an effect (Olve et al, 1999: 8-9). The following is a theoretical example of the influence of effects. By enlarging the work force (resource/input) of municipal service units of a municipality, garbage removal (activity/process) will be efficient and swift (result/output). In turn, this leads to customer satisfaction (effect) and brisk settlement of service accounts (outcome). The cyclical process is continued with the influx of an increased cash flow that sustains the larger garbage removal units. Adequate time should be taken to examine the effectiveness of the

relation between efficient service and improved liquidity. Accordingly resources and inputs, indicated in the top part of the illustration (Figure 2.4.), are measurements functioning as performance drivers.

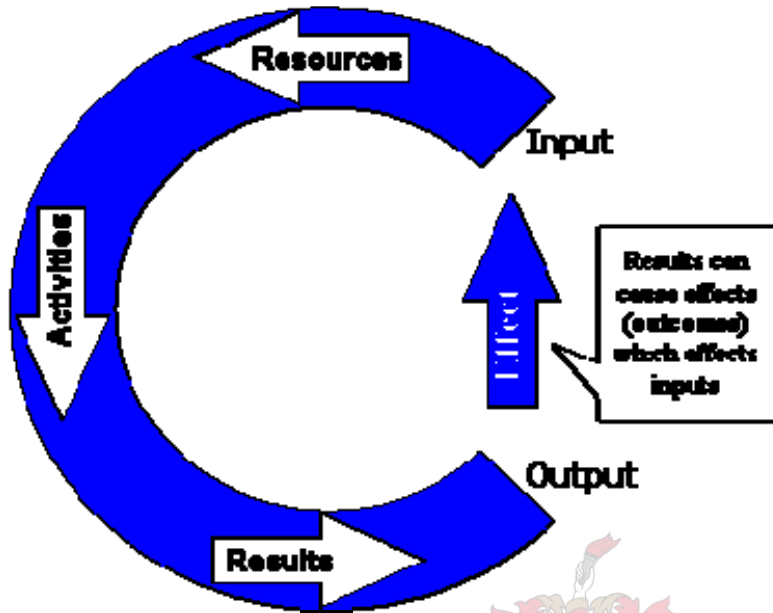


Figure 2.4.: The input and output model.

Adapted from *Performance drivers. A Practical Guide to using the Balanced Scorecard* (Olve et al, 1999: 8).

Although most organisations have both financial and non-financial measures, many “are using their financial and non-financial performance measures only for tactical feedback and the control of short-term operations” (Kaplan & Norton, 1996:8). Furthermore, management control that mainly focuses on short-term decentralised profit does not provide an indication of the scope of operational management. Well-developed Balanced Scorecards combine performance drivers with outcomes measurements of which profitability is only one (Olve et al, 1999: 8-11).

Management control mainly focuses on short-term decentralised profit and is not an indicator of the scope of operational management. Good Balanced

Scorecards combines performance drivers with outcomes measurements of which profitability is only one (Olve et al, 1999: 8-11).

2.8. ESTABLISHING THE BALANCED SCORECARD

2.8.1. The scope of the process

The Balanced Scorecard provides functional documentation for continued development of control measurements whilst achieving the organisational objectives and vision. Employees are empowered through implementation at all levels that leads to a realisation of the business strategy and situation of the organisation. Workers ultimately become part of the dynamic action and process to efficiency, productivity, and competitiveness (Olve et al, 1999: 38).

As a result, daily organisational activities are based on the workers' shared vision of the organisation's long-term objectives (Olve et al, 1999: 38). The direction that the organisation is taking becomes a tangible and intelligible reality for each employee. Furthermore, the subdivisions of the Balanced Scorecard into activity areas and management areas provide valuable information to the employees of a specific division or task division. Employees develop a better understanding, derive motivation and are more receptive to change based on the Balanced Scorecard method than the implementation of enforceable organisational decisions. The organisation thus improves its overall ability to learn, it improves its vision and continuously develops its competitiveness.

The process for the development and implementation of this type of Balanced Scorecard focuses on at least four important areas:

2.8.1.1. Strategic development

In considering the Balanced Scorecard, the organisation develops a strategy that describes in more tangible terms the relevant objectives and critical success factors (Olve et al, 1999: 38-39). Clarifying the organisation's strategy provides the starting point for implementing the strategy. The next step entails an analysis of the strategy in terms of the value-chain processes of the organisation to create a strategy map. The strategy map provides a graphical representation "of the company's value chain [that] reveals how the firm creates value in terms that managers and employees alike can grasp and act on" (Becker, Huselid & Ulrich, 2001:40-41). Encouraging broad participation in the development of the strategy map will not only improve the quality of the map, but also buy-in from critical role-players. (Becker, Huselid & Ulrich, 2001:41)

2.8.1.2. Management control systems

The process of compiling a Balanced Scorecard mainly emphasises how the organisational strategies would be translated into objectives, measures, and describing managers' tasks into comprehensive balanced statements. This process should be repeated at each organisational level to ensure that each employee develops an understanding for his/her contribution in the holistic approach to strategy development. It is thus important to provide linkages between the various measures of the distinctive Balanced Scorecard perspectives, as well as the Balanced Scorecards of different organisational units within the organisation (Olve et al, 1999: 39-40).

2.8.1.3. Systems and IT development

To ensure the practicality and user-friendliness of the Balanced Scorecard the procedure for the management of measurements should be applied in an

uncomplicated manner. Data needs to be captured, verified, and made available. Kaplan and Norton (2004:251) states that an “information capital application, a package of information, knowledge and technology, builds upon the technology infrastructure to support the organisation’s key internal processes for innovation, customer management, operations management, and regulatory and social”. Olve et al also stress that a Balanced Scorecard system should be incorporated into existing computer systems (1999: 40). Consequently, it enables an information management system (MIS) to be set up.

2.8.1.4. The learning organisation

The primary function of the Balanced Scorecard is the management of organisational activities and processes. The scorecard enables management to determine the relationship between actual and expected performance laying the basis for discussion on fulfilling the vision (Olve et al, 1999: 40-41). This allows for adjustments to planning and strategies to ensure optimal outputs and the attainment of the desired outcomes. The conclusion of these strategic analyses is the most important contribution of the Balanced Scorecard to the learning organisation.

2.8.2. The 11 steps for developing the Balanced Scorecard

According to Olve et al (1999: 48-83) the process for the development of the Balanced Scorecard consist of 11 steps.

These 11 steps are:

1. Defining the institution and the role of the organisation
2. Reaffirm the organisational vision.
3. Determine the perspectives

4. Analyse the vision in terms of each perspective and formulate strategic objectives
5. Identify critical success factors.
6. Identify cause-and-effects relationships and develop balanced measurements accordingly.
7. Determine the Balanced Scorecard for top-level management.
8. Analyse the scorecards and measurements in terms of each organisational unit.
9. Formulate objectives.
10. Develop an action plan.
11. Implement the Balanced Scorecard.

2.9. CRITIQUE ON THE BALANCED SCORECARD

Many a criticism is the result of experienced failure and problems, and it is therefore sensible to explore the challenges concerning the Balanced Scorecard before embarking on a set path. The practises of organisations' scorecards are unique and there may be just as many different problems and reasons for failure. For this reason, fundamental challenges are summarised in three main categories.

Categories of challenges to consider:

2.9.1. WHY

Scorecards are likely to fail when lacking motivation (WHY) for its implementation. The Balanced Scorecard is as good as its organisation-wide human support. When people show resistance to change, they should be motivated and bought-in by providing the reasons and benefits for the new course of action. Problems arise when scorecards are perceived as short-term

and pointless with less importance than previous control methods, not concurrent with strategy and a source of uncertainties and alarm. It should be prioritised and not outweighed by other tasks (Olve et al, 2003:102-104, 109).

2.9.2. WHAT

Inappropriate application (WHAT) may cause problems. A linked strategy and vision throughout the organisation creates coherence. In its absence, departments and units may engage in conflict and thus jeopardise organisational outputs and outcomes. Unsuitable objectives and scope for the use of the Balanced Scorecard and organisational coverage prove to be problematic. Further origins of failure are based on too many or too complex measurements, stagnation, discontinuation of implementation and a lack of exploring new developments of scorecards (Olve et al, 2003:102-104, 112-113).

2.9.3. HOW

Applying scorecards (HOW) inappropriately is a major cause of performance failure. Personnel should be properly introduced and trained in the usage of scorecards. Accordingly, they should be familiarised with the appropriate software, dispersing other forms of control while linking the new measures to established practices. Additional grounds for problems arise from the lack of support from top management, mismatching people participation, undefined role expectations, excessive workloads, inadequate time allocated to BSC tasks and a lack of appropriate support software (Olve et al, 2003:102-104, 114-115).

Initially Kaplan and Norton (2001: 3) introduced the Balanced Scorecard as a measuring instrument that was soon adopted to include organisational strategy. The Balanced Scorecard set the way to a new performance management system enabling not merely the measurement of past financial statistics, but also present

trends, processes, customer expectations, and especially future growth that incorporated measurement of strategy in present and future time levels. The Balanced Scorecard could be applied successfully if careful consideration is given to the relevant challenges and pitfalls. Globally there is clear statistical proof of the success of the Balanced Scorecard as a performance management model. In 1995 Mobil North America Marketing and Refining Division, with a \$15 billion turnover a year, was ranked first in its class after previously performing below average. Thereafter it maintained its leadership in the market for a further 2 years. Similarly, the underperformance of CIGNA Corporation's Property & Casualty Division, Chemical Retail Bank, and Root Energy Services became Balanced Scorecard success stories (Kaplan & Norton, 2001: 3-7).

2.10. MANUAL VERSUS ELECTRONIC PROGRAMME INTEGRATION

Computers and software have brought a greater global metamorphosis to civilisation than controversially the wheel itself. Throughout all sectors of private and public domain, information and computer technology (ICT) forms the backbone of modern-day business and services. The application of the Balanced Scorecard requires vast amounts of continuous information gathering and processing. The sources of these data are commonly already in an electronic format produced by general office software or data warehouse origins. It is, therefore, not a case of hand, as opposed to electronic setup, of a Balanced Scorecard, but rather the use of a manual versus software driven integration of data into a central Balanced Scorecard system.

The outcome advantages of using software to integrate performance measurement in a central system include (Performance Management Software.net, 2004):

- maximise value creation consistently;
- enhance corporate transparency;

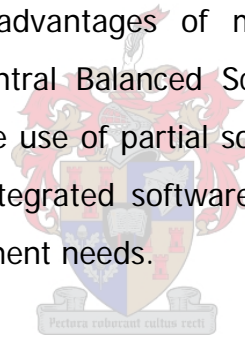
- aligns the interests of management with stakeholders;
- facilitates communication with investors;
- improves internal communication on strategy;
- sets clear management priorities;
- improves decision making;
- helps to balance short-term, mid-term, and long-term trade-offs,
- encourages value-added investments;
- improves the allocation of resources;
- simplifies planning and budgeting; and
- supports the management of complexities, uncertainties, and risks.

Most organisations use their existing software environment with support applications, such as MSAccess or MSEXcel combined with Visual Basic, to implement the Balanced Scorecard. The solution is focussed mainly on delivering information for high-level management. Balanced Scorecard software may be applied to integrate manually gathered information into a central report system. The basis for specialised Balanced Scorecard software is considered its ability to retrieve numerical information from the organisation's wide range of transaction systems, which would present this as a performance measuring report in the four perspectives. ICT is able to perform a prominent role during the distinctive stages of the Balanced Scorecard project: Initial stages, breaking down and linking the scorecard, setting targets and monitoring performance, and managing strategic activities. This includes ICT supported activities, such as tools to illustrate and validate strategy maps, features that connect vision, strategic goals, critical success factors, measures, action plans, and forums that enable employees to share their knowledge and insight to improve the business (Olve et al., 2003: 253-254).

2.11. CONCLUSION

The theory on the Balanced Scorecard sets the basis for this discussion, whilst the outcome measures of performance drivers focus on the inputs, outputs, outcomes, and effects of the cyclical process of performance. After considering the scope of the Balanced Scorecard, it is established by applying 11 development steps.

Critique on the Balanced Scorecard is divided in 3 major categories of failure because of what, why, and how the Balanced Scorecard is applied. It could be concluded that the Balanced Scorecard could be applied successfully if careful consideration is given to the relevant challenges and pitfalls. There are various other models of performance measurement and improvement and a few were briefly noted. Finally, the advantages of manual versus software driven integration of data into a central Balanced Scorecard software system were established. It is seen that the use of partial software support is inevitable and the implementation of fully integrated software systems is the answer to the growing performance management needs.



CHAPTER 3

SELECTING AND EVALUATING SUITABLE BALANCED SCORECARD SOFTWARE

3.1. INTRODUCTION

The effectiveness of an organisation's strategy focus and learning processes is based in its ability to keep the Balanced Scorecard system up to date with the latest relevant information (Olve et al, 2003: 267). The Balanced Scorecard is virtually a measurement scope that gives perspective to the overall functioning of an organisation. Implementing such a system requires the establishment of procedures that regularly collect a wide array of information to be processed and communicated to the appropriate persons and management. An extensive range of software support provides in the growing demand for automated Balanced Scorecard systems (Olve et al, 2003: 267).

The first part of this chapter is dedicated to the process of selecting appropriate Balanced Scorecard software and the criteria to evaluate and match software with the relevant organisation. In the second part, available standards and certified providers are examined, preceding a brief summery of the Balanced Scorecard software provided by CorVu, SAS, SAP, QPR, Oracle, Peoplesoft, and Microsoft. During the last part of the chapter, subsequent to establishing a suitable application, a synopsis is provided and the development of the Microsoft Business Scorecards Accelerator is explored.

3.2. SELECTING BALANCED SCORECARD SOFTWARE

According to the Balanced Scorecard Collaborative (The Balanced Scorecard Collaborative {1}, 2003), choosing the right software is not merely about money,

but rather about culture, communication, integration and efficiency. This is confirmed by Olve et al. (2003: 267) that it is “paramount to examine where the product comes from, and consider whether the embedded logic in the system (inherited from its origin) will fit the organisation’s context and the purpose of the BSC implementation.”

3.2.1. Criteria for the evaluation of Balanced Scorecard software

It is essential to match the needs of an organisation to available Balanced Scorecard software on the market. It could prove to save cost and improve organisational outcomes. The evaluation criteria for matching Balanced Scorecard software (Olve et al, 2003: 268) are assessed together with the evaluation criteria for electronic decision support systems (Cloete, 2002: 10-11), to produce a comprehensive standard of measure.

3.2.1.1. Company and product

The software provider and product should be evaluated in terms of company background, expertise, credibility, and price structure (Olve et al, 2003: 268). It stands to reason that inexpensive software would gain more popularity (Cloete, 2002: 10).

3.2.1.2. Simplicity and scalability

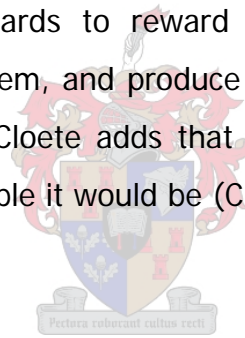
A simpler user interface will benefit users in developing countries where frequent low levels of electronic literacy are found (Cloete, 2002: 10). However, it is recommended that the software system should be able to expand with the organisation’s increase in requirements, such as the addition of additional scorecards (Olve et al, 2003: 268).

3.2.1.3. Flexibility and customisation

Flexible software systems allow for organisation and objective specific tailoring (Cloete, 2002: 11 and Olve et al, 2003: 268) whilst accommodating a particular scorecard dialect. An optional advantage would be if the application would permit both personal scorecards and personal views of performance (Olive et al, 2003: 268) and address various areas of concern (Cloete, 2002: 11).

3.2.1.4. Features and functions

Recommended features and functions consist of the ability of the system to assign ownership to measures and objectives, apply and enforce access rights (security feature), link scorecards to reward schemes, manage action lists, provide an ample warning system, and produce hard copy performance reports, etc (Olive et al, 2003: 268). Cloete adds that the more rigorous the scientific base of the tool, the more reliable it would be (Cloete, 2002: 11).



3.2.1.5. Communication

Two-way communication between the BSC applications and an unlimited scale of users is generally provided through a web-enabled system. The system should allow users to make comments about goals, targets, and results, as well as alerting the user when new information becomes available or in the event of input action being required (Olive et al, 2003: 268).

3.2.1.6. Technical specification and compatibility

It is important to consider the hardware and software requirements of the new BSC application against the existing infrastructure of the organisation (Olive et al, 2003: 268). The level of compatibility and integration with existing applications

should be considered to optimise application potential (Cloete, 2002: 11). In addition, the less computer capacity the software requires the more application potential the tool may have, especially in developing countries (Cloete, 2002: 10).

3.2.1.7. Data presentation and view

The application's capability should be evaluated to provide presentations and different visualisations of information in the form of strategy maps, links between metrics and goals, descriptions and definitions of measures, etc. (Olve et al, 2003: 268). Likewise, "visual and graphic capabilities will have a better impact for presentation purposes, in developing countries where the levels of literacy are traditionally low" Cloete, 2002: 11).

3.2.1.8. Functionality analysis

The functionality of the services that the system provides is based on the capacity to compare and benchmark outcomes, online analytical processing (OLAP) including statistical simulation, trend analysis features, and drill-down capabilities (Olve et al, 2003: 268).

3.2.1.9. Service

Additional services provided by the software vendor, such as consulting, education and support should be considered (Olve et al, 2003: 268). Alternatively, off the shelf software may potentially be more functional than specially designed software that may need specialist maintenance and upkeep (Cloete, 2002: 10).

3.2.1.10. Transparency

Software tools that are transparent and simple improve control and legitimacy in the perception of the decision-maker (Cloete, 200: 11).

3.2.1.11. Future

It is imperative to take the aspirations, developments, and potential of the vendor company into account. In addition, releases of newer versions in future may provide additional features, integration, and programme corrections (Olve et al, 2003: 268).

3.2.2. **Balanced Scorecard Collaborative standards**

The Balanced Scorecard Collaborative, Inc. of which Dr Robert Kaplan is the Chairman and Dr David Norton is the President, has been established to set the market standard and provide certification for Balanced Scorecard software applications. Software, which is Balanced Scorecard Collaborative Certified™, meets the Balanced Scorecard Collaborative Functional Standards. Firstly, the objective of the standards is to provide guidance to user organisations evaluating Balanced Scorecard applications. Secondly, it defines development guidelines to software companies assisting them in the software design of the Balanced Scorecard methodology (The Balanced Scorecard Collaborative {2}, 2003).

The standards define the key functions that a system should provide in order to meet and support the Balanced Scorecard management process. It does not regulate any technical attributes. Furthermore, it provides a baseline that vendors are encouraged to exceed in order to meet the particular needs of their customers (The Balanced Scorecard Collaborative {2}, 2003).

3.2.3. Balanced Scorecard Collaborative Certified™ software

The growing number of software packages for the BSC on the market exceeds 100, of which 28 specialised applications provide for advance solutions (Olve et al., 2003:1, 253). Certified software provides only for a small portion of the available BSC software on the market. Figure 3.1. contains the Balanced Scorecard Collaborative Certified™ software providers.

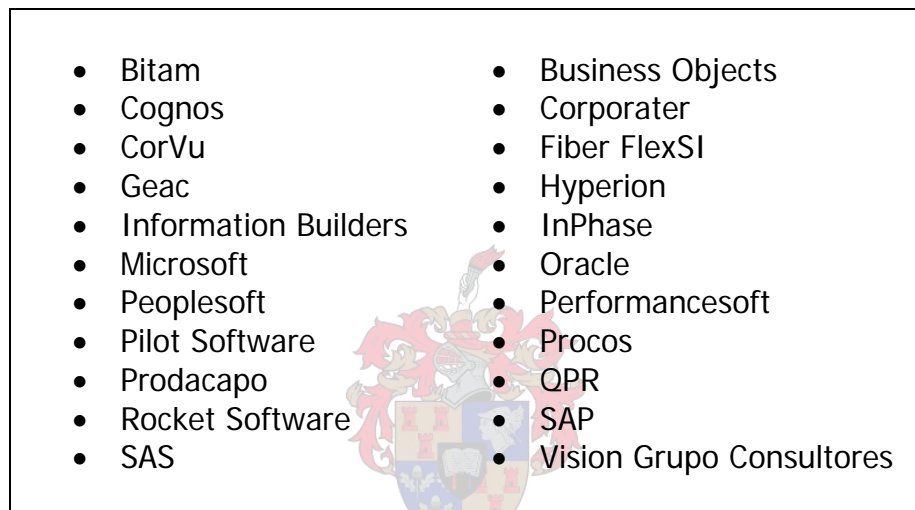
- 
- Bitam
 - Cognos
 - CorVu
 - Geac
 - Information Builders
 - Microsoft
 - Peoplesoft
 - Pilot Software
 - Prodacapo
 - Rocket Software
 - SAS
 - Business Objects
 - Corporater
 - Fiber FlexSI
 - Hyperion
 - InPhase
 - Oracle
 - Performancesoft
 - Procos
 - QPR
 - SAP
 - Vision Grupo Consultores

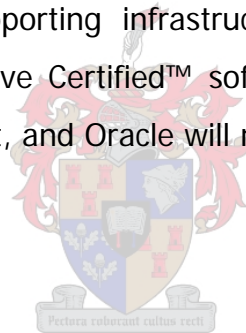
Figure 3.1.: Balanced Scorecard Collaborative Certified™ software providers
(The Balanced Scorecard Collaborative, 2005)

The software applications in Table 3.1. all comply with the minimum standards and criteria set by the Balanced Scorecard Collaborative. Four of these packages, namely SAS, SAP, Peoplesoft, and Oracle, are widely used in both private and public organisations in South Africa and warrant further analysis. Users of these packages include local, provincial and national government, the Human Sciences Research Council, Engen Petroleum Limited, the Universities of Stellenbosch, Free State, North-West and Western Cape, as well as Standard Bank Limited, FirstRand Bank Limited and ABSA Bank Limited (ITWeb Limited, 2005; Unisys, 2005). With the exception of Peoplesoft, these systems were originally designed for the management of individual performance. In contrast,

the CorVu and QPR software packages were specifically designed to manage the performance of an organisation on a strategic level. Both these companies have been in operation for more than ten years with customers from across the globe. QPR software are used by the Cape Peninsula Technicon, Kwazulu-Natal Provincial Government, Tshwane District Municipality with over 7000 users, Johnson and Johnson (SA), and the United Nations Development Programme in South Africa (Jonker, 2005).

Lastly, Microsoft provides a strategic Balanced Scorecard application that builds on the current Microsoft environment and familiar applications, which will simplify the rollout of the system in an organisation. Another significant advantage is that the package is provided free of charge, but organisations need to acquire the necessary supporting infrastructure. The capabilities of the Balanced Scorecard Collaborative Certified™ software provided by CorVu, SAS, SAP, QPR, Peoplesoft, Microsoft, and Oracle will now be summarised briefly.

3.2.3.1. CorVu



CorVu is one of the world's leading providers of performance management software and the first to automate the Balanced Scorecard methodology. The CorVu 5 Strategic Management System software integrates the Balanced Scorecard with Six Sigma, Earned Value Management System (EVMS), Total Quality Management (TQM), Economic Value Add (EVA), ISO 9000, and the Malcolm Baldrige Award for Quality management disciplines (CorVu Corporation, 2005; The Balanced Scorecard Collaborative {3}, 2003). The CorStrategy 5 is a unique BSC performance management application that automates strategic management and links, performance metrics initiatives, resources, and risks to strategic objectives (The Balanced Scorecard Collaborative, 2005).

3.2.3.2. SAS

SAS is a financially stable private company with a customer base of 90% of the Fortune 500. The SAS Strategic performance Management software includes a strategy map builder through which an entire scorecard can be built. The application allows results to be deployed over the web and surface results to be published in multiple languages. Further, it provides access to multiple databases in MSEXcel, Oracle, Peoplesoft, SAP, and various other formats. SAS offers analytical support for correlation analysis, forecasting, simulation, process intelligence, operational research, and advance statistical mining. It provides for additional management solutions to support financial planning, reporting and consolidation, activity based management, risk analysis, profitability, supply chain management, IT management and human capital management (The Balanced Scorecard Collaborative {3}, 2003).

3.2.3.3. SAP

MySAP Financials offers a complete web enabled Balanced Scorecard application including the concepts and tools to clarify and transform business vision into practical strategies, communicate and link strategy objectives with performance measures, set performance targets and aligns strategy initiatives with business operations; enhance strategic feedback, and organisational learning. Strategy maps, strategy analysis, analysis tree, perspective overview, performance overview, and drill down capabilities are some of the included features (The Balanced Scorecard Collaborative {3}, 2003). The Balanced Scorecard is part of the corporate performance management component of the SAP SEM (Strategic Enterprise Management) software solution that also includes modules on business planning and simulation, business consolidation, stakeholder relationship management (Asmal, 2005).

3.2.3.4. QPR Software Plc

QPR Software Plc is a leading provider of Corporate Performance Management software with a high scope partner network in 45 countries. The QPR ScoreCard embraces the Balanced Scorecard methodology in addition to strategic performance management to successfully plan, implement, communicate, and dedicate employees to organisational strategies and objectives (The Balanced Scorecard Collaborative {3}, 2003). The application assesses and analyses datasets in conjunction with drill down techniques to deeper levels of information and analyses the cause-effect relationships between goals, objectives, and critical success factors (Cloete, 2001:16).

3.2.3.5. Peoplesoft

Before the takeover by Oracle, Peoplesoft was the “world’s second largest provider of enterprise application software with 12 000 customers in more than 25 industries and 150 countries” (ITWeb, 2005). Peoplesoft Scorecard is web-based that allows users to access the system through a web browser. Operators navigate the system through the web that eliminates the need for additional software on each user’s computer (Atos KPMG Consulting, 2003). Peoplesoft Enterprise Performance Management provides solutions grouped “according to the major areas of focus for most organisations, i.e. strategy/financial management, customer relationship management, industry process management, and workforce analytics. Each solution set provides tools for analysis in each of these key areas” (Peoplesoft, 2005).

3.2.3.6. Microsoft

Microsoft with the status as the largest software corporation in the world released on 2 June 2004 its Balanced Scorecard software, called the Business

Scorecard Accelerator together with Microsoft Office Excel Add-in for SQL Server™ Analysis Services on the market. The Business Scorecard Accelerator is a web-based solution that enables efficient definition, visualisation, and management of scorecard metrics and strategies by using familiar (e.g. Microsoft Office) applications. Moreover, it provides the tools required to exchange the relationships between key performance indicators (KPIs) and concrete business objectives (Microsoft Corporation {2}, 2004). The system uses the complete functionality of Microsoft Office Visio 2003 to build strategy maps and represent indicators, and Microsoft Office InfoPath 2003 to automate data collection and management (Microsoft Corporation, 2003). The software is available free of charge as an add-on to the Microsoft Office 2003 suit.

3.2.3.7. Oracle

The Oracle Corporate Performance Management solution includes Enterprise Planning and Budgeting, Balanced Scorecard and Daily Business Intelligence. The system integrates “the sources of budgeting information, the target applications, and the management roles along business process flow” to provide a more “consistent, integrated management process” (The Balanced Scorecard Collaborative, 2004:14). The process starts with the “articulation of the strategy and targets through the scorecard and evolves the static budget into a rolling forecast” (The Balanced Scorecard Collaborative, 2004:14). Using the Oracle Portal, Enterprise Planning and Budgeting reports generated with advanced Financial Analyzer and Sales Analyzer products are put adjacent to tables and reports generated by the Daily Business Intelligence as well as the Balanced Scorecard views (The Balanced Scorecard Collaborative, 2004:18 & 19).

Although these summaries provide an interesting overview of the various software packages, the criteria provided by the respective websites of the applications do not provide a suitable basis for comparison.

Figure 3.2. attempts to provide a basis for comparison on uniform characteristics, focussing on the costs and system requirements of the respective software packages.

Product	Cost	Compatibility and Requirements
CorVu <u>CorStrategy 5</u> Standalone programme (Source: Kundu, 2005)	Licence fee per user. Approximately R10 000 R100 000 for system	<u>Supported platforms include:</u> Windows 95/98 SE/2000/NT 4.0/XP, Unix, Linux, ODBC compliant, OLE DB for OLAP <u>GUI:</u> Web-based system requires web browser, supports all major browsers. <u>Compatible Data Servers include:</u> DB2, Oracle, Informix, SQL server, Progress, ESSBASE, ASCII
SAS <u>SAS® Strategic Performance Management</u> contains Balanced Scorecard as incorporated model (Source: Somerset, 2005)	First Year: R864000 (100 users) to R8,9 mil (2000 users) Renewal: R285300 to R2,9 mil	<u>Supported platforms include:</u> Windows 2000/NT 4.0/XP, Unix, Linux <u>GUI:</u> Web-based system requires web browser, supports all major browsers. <u>Compatible Data Servers include:</u> Oracle; MS SQL, DB2 5, Win Server 2003 Requirements depend on the system utilised.
SAP <u>SAP SEM</u> contains Balanced Scorecard as incorporated module (Source: Asmal, 2005)	R5000 per user for SAP SEM	<u>Supported platforms include:</u> Windows 95/98 SE/2000/NT 4.0/XP, Unix, Linux <u>GUI:</u> Web-based system requires web browser, supports all major browsers. <u>Compatible Data Servers include:</u> DB2, Oracle, MS SQL server, ASCII
QPR <u>QPR ScoreCard</u> Standalone programme (Source: QPR Software 2005; Jonker, 2005)	Licence per user: Full access R3800; View access R85 per person	<u>Supported platforms include:</u> Win/95/98/98 SE/Me/NT 4.0/2000 <u>GUI:</u> Web-based system requires Microsoft Internet Explorer 4 (or later); Netscape Navigator 4 (or later) <u>Compatible Data Servers include:</u> Oracle 7.3, 8.0, 8i; MS SQL 6.5, 7.0, 2000; DB2 5.2/6.1 for Windows NT; Access 97 or 2000 (Recommended only for standalone usage)
Peoplesoft <u>PeopleSoft Scorecard</u> (Source: Peoplesoft, 2005)	Peoplesoft was taken over by Oracle since 1 June 2005 with continued support to current customers. Due to the uncertain future continuation of the software, (see evaluation criteria 3.2.1.11.) the software is not considered for comparison purposes.	
Microsoft <u>Microsoft Business Scorecards Accelerator</u> Standalone module (Source: Microsoft {1}, 2004: 12-14)	Free	<u>Supported platforms include:</u> Windows Server 2003 & Win 9X, NT4,2000, XP for users <u>GUI:</u> Microsoft Internet Explorer 6.0 or later <u>Compatible Data Servers:</u> Microsoft SQL Server 2000™ with SP3 or later, Microsoft SQL Server Analysis Services™ with SP3 or later (included with SQL Server 2000™), Microsoft Windows® SharePoint™ Services (available with Windows Server 2003™)
Oracle <u>Oracle Balanced Scorecard</u> is not a standalone module and form part of the Oracle Financials family applications. (Source: Carroll, 2005; Oracle, 2005)	Balanced Scorecard module yearly: \$1995 per user + \$438-90 upgrade and support	<u>Supported platforms:</u> Windows 2000/NT 4.0/XP, Unix, Linux <u>GUI:</u> Web-based system requires web browser, supports major browsers. <u>Compatible Data Servers include:</u> Oracle 10G, SQL server, DB2

Figure 3.2.: Comparison of Balanced Scorecard software packages based on costs and requirements.

3.2.4. Selecting the Microsoft Business Scorecards Accelerator

It is apparent that the process of business management and performance management requires additionally provided software other than only the Balanced Scorecard application in order to achieve success. All seven of the aforementioned (CorVu, SAS, SAP, QPR, Peoplesoft, Microsoft, and Oracle) provide integrated management software solutions with various options and additional benefits of which the Balanced Scorecard application forms the foundation for performance assessment, strategy, and planning. CorVu, SAS, SAP, QPR, Peoplesoft, and Oracle are extensive and costly solutions, which generally require comprehensive knowledge, training, and support of not only the Balanced Scorecard software, but also the group of business management software in which it is incorporated.

The distinctive advantage for selecting the Microsoft Business Scorecards Accelerator (MBSA) is that:

- the software is provided free,
- the rollout and implementation could be done at little or no cost if the existing ICT infrastructure includes Microsoft Office 2003 and server specific software (see 3.3.3. for requirements).
- The MBSA enables employees to use familiar Microsoft Office tools to access, analyse data, and automate processes with speed and accuracy (Microsoft Corporation, 2003).
- The cost benefit make the MBSA software especially suitable for smaller public sector organisations, such as municipalities, with no minimum limit of users and no extra cost for additional users.

3.3. OVERVIEW OF THE BUSINESS SCORECARDS ACCELERATOR

3.3.1. Basic objectives and functioning

The main objective of the Business Scorecards Accelerator (MBSA) is to assist organisations to measure, monitor, and manage business performance. The MBSA supports both the Balanced Scorecard methodology and other models of performance management, as mentioned in chapter 2. It serves to consolidate analysis data from multiple sources, whilst allowing for defining and measuring the appropriate metrics and the building of strategy maps (Microsoft Corporation {1}, 2004: 5, 7).

3.3.2. Elements of a scorecard

The major elements in the MBSA are the perspectives, objectives, and key performance indicators (KPIs) that may be applied to most Performance Management models, including the Balanced Scorecard. Any number of perspectives can be created and consist of their own objectives. Each objective is built up from KPIs that are mapped to a measure in an OLAP cube in Analysis Services. The data in the cube reflects the KPI values. The combined scores of all the KPIs for a particular objective determine the total score for that specific objective. Accordingly, the collective scores of the objectives produce the score for the parent perspective. Ultimately, the combined scores of all the perspectives provide the score for the particular scorecard (Microsoft Corporation {1}, 2004: 6).

Since the KPI measures may vary in type and metrics, the individual scores are initially evened before being rolled up to the objective level. Subsequently, further roll up from objective to perspective and scorecard level, does not require even distribution of metrics, since a common metric has already been established (Microsoft Corporation {1}, 2004: 6-7).

3.3.3. Technical specifications

The MBSA is a web-based business intelligence application integrated with the Microsoft Office client suite, using Microsoft SharePoint Technologies to configure and display scorecard data. The Online Analytical Processing (OLAP) data used to compile the scorecards are stored in the SQL Server 2000 and SQL Server 2000 Analysis Services as metadata and business data respectively (see figure3.1.). The sets of data in the Analysis Services, known as OLAP cubes, are structured and summarised into a multidimensional composition defined by a series of dimensions and measures. Each OLAP cube is mapped to more than one scorecard, but a scorecard may be linked to only one cube (Microsoft Corporation {1}, 2004:5, 8).

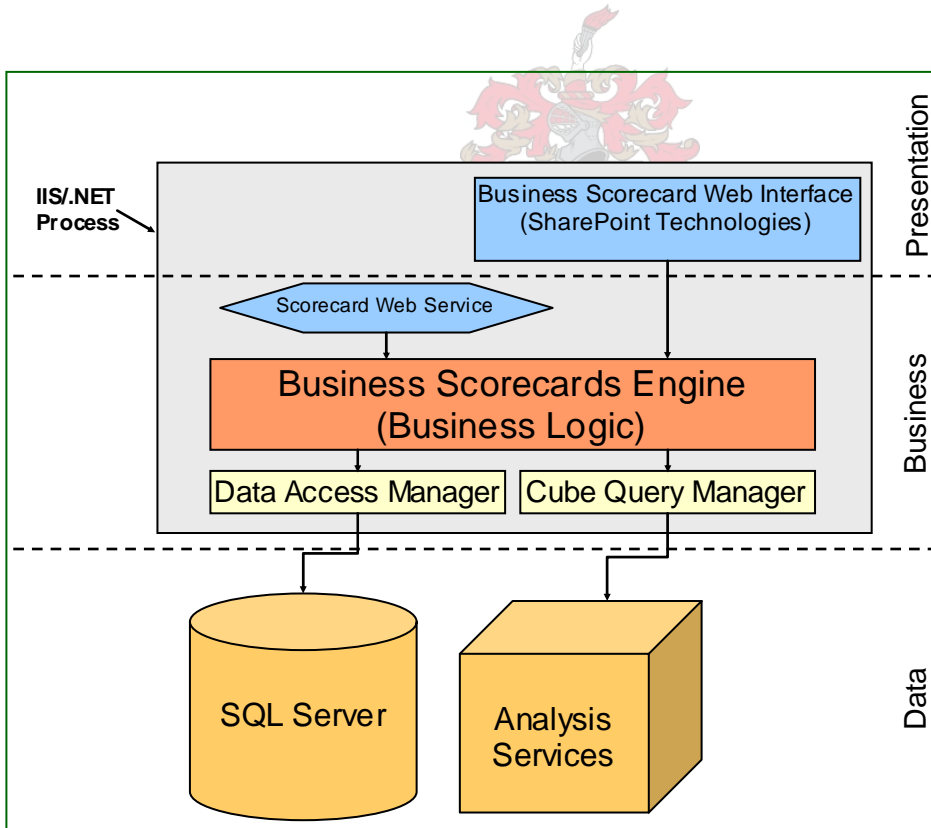


Figure 3.3.: Business Scorecard architecture (Microsoft Corporation {1}, 2004: 8).

The MBSA requires a series of software, including advanced server software, to enable shared OLAP services. The system software requirements are as follows (Microsoft Corporation {1}, 2004: 12):

Windows Server 2003 (including IIS.6.0)

SQL Server 2000 with SP3

SQL Server 2000 Analysis Services with SP3

Windows SharePoint Services or SharePoint Portal Server 2003

Internet Explorer (IE) 6.0

Office 2003 with Office Web Components (OWC) add-in.

Visio 2003

Visio Viewer 2003

3.4. Developing a Balanced Scorecard with the MBSA

The specific steps to create a scorecard may vary depending on various factors, such as the designer's knowledge of the scorecard methodology, the plan of the scorecard structure and elements, the variety, and arrangement of data. The MBSA creates a SharePoint Web site called the Scorecard Development Site, consisting of five modules used for the construction of a Balanced Scorecard. The modules entail Scorecard Elements, Scorecard Builder, Strategy Map Builder, Scorecard Data Sources, and Application Settings (Microsoft Corporation {1}, 2004: 9). Generally, there are six steps in setting up a Balanced Scorecard (Microsoft Corporation {3}, 2004).

Step 1. Set up the scorecard perspectives, objectives, KPIs, themes and initiatives as reusable components that could be incorporated into several different scorecards by means of the Scorecard Elements module.

- Step 2. Define a Balanced Scorecard by including the previously created perspectives, objectives, KPIs, themes, and initiatives through the Scorecard Builder or Strategy Map Builder.
- Step 3. Design a strategy map using the Strategy Map Builder.
- Step 4. Establish the Scorecard Data Sources through the appropriate module to map the scorecard to a database and cube.
- Step 5. Design the preferred views by means of which the scorecard is presented outside the development environment through the Scorecards Web Parts.
- Step 6. Finally, the application settings are prepared through the Application Settings module to:
- Customise scorecard element attributes.
 - Authorise users and groups to build SharePoint views against scorecards.
 - Create or edit indicators.
 - Administer miscellaneous Business Scorecards settings (Microsoft Corporation {3}, 2004).

3.5. Conclusion

Selecting appropriate Balanced Scorecard software should be a scientific process based on the evaluation of explicit criteria matching the needs of an organisation with available software on the market. For this purpose, the criteria for the evaluation of the software were reviewed. Subsequently consideration was given to software vendors that the Balanced Scorecard Collaborative certified as

complying with the functional standards requirement. It narrowed the scope of available software to 20 providers. The Microsoft Business Scorecards Accelerator (MBSA) distinguished itself as the only Balanced Scorecard software which is available free of charge. Other prominent performance management software that is widely available in the South African market is extensive and costly solutions, requiring competence in both the Balanced Scorecard software and its supporting business management software. Although the MBSA requires existing Microsoft software environment, the rollout could be implemented inexpensively if these requirements are in place. The MBSA enables users to utilise familiar tools to access, analyse data, and automate processes with speed and accuracy. The chapter concluded with an overview of the MBSA and the exploration of its development.

The next chapter will investigate the current business structure and performance of Unistel Consultus (Pty) Ltd, a small public sector serving company that currently bases its performance only on financial indicators, while chapter 5 will apply the MBSA to develop an integrated performance management system based on the four Balanced Scorecard perspectives.

CHAPTER 4

ASSESSMENT OF THE BUSINESS NATURE AND CURRENT PERFORMANCE OF UNISTEL CONSULTUS (PTY) LTD

4.1. INTRODUCTION

The nature of this chapter is to explore the existing business information of an organisation functioning without any contemporary performance management model and electronic management support systems. The analysis will lay the foundation for a theoretical implementation of the Balanced Scorecard by means of the Microsoft Business Scorecards Accelerator software that is, to substantially improve the performance management of the organisation.

Unistel Consultus (Pty) Ltd is a small public sector serving company, an ideal example to explore the organisational activities based on a former performance management paradigm and to compare it with contemporary Balanced Scorecard methodology (see next chapter). The author was at the time of writing the operational manager of Consultus and only where indicated viewpoints expressed here are based on the personal observations and experience of the author.

The chapter commences with an overview of Unistel Consultus (Pty) Ltd, highlighting the history and establishment of the company, including the nature of its commercial practice and organisational structure. The company's business system and processes are analysed according to the four Balanced Scorecard perspectives: financial perspective, internal systems perspective, customer perspective, and future and growth perspective. Finally, the main key performance indicators are discussed.

4.2. OVERVIEW OF UNISTEL CONSULTUS (PTY) LTD

Unistel Consultus (Pty) Ltd is relatively a small and newly founded business that functions as a means for Stellenbosch University to provide professional intellectual services to the public sector, hence referred to as a small public sector serving company. Entrepreneurial academics have the opportunity to provide their services through the corporate infrastructure of the company to external clients whether to individuals or to projects obtained through tender procedures. Intellectual property and the contributions of academics form the source of the company's services. Academics are primarily the employees of the University and the services provided to the company are of a secondary nature. This dynamically limits the company's access to intellectual resources, which is susceptible to the contribution of the academics who are also referred to as associates. A system for a Collegium of Associates was introduced to extend the participation of associates' beyond the capacity of the University. External professionals with requisite credentials are encouraged to join the Collegium of Associates, although a minimum of 50% intellectual contribution by university personnel is compulsory in any project to ensure quality and to maintain the product identity of Stellenbosch University (Van Rooyen, 2004). It is essential to offer attractive business opportunities to maintain relations and the resources of associates that ultimately determine the capacity of Consultus.

4.2.1. History and establishment of the company

Consultus was established in 1994 as the programme for Public and Development Sector capacity building of the School of Public Management and Planning of Stellenbosch University (Van Rooyen, 2004). It mainly provided intellectual capacity in the areas of training and consultation to segments of various government spheres and public sector organisations. Following the success of the programme, the company Unistel Consultus (Pty) Ltd was founded

in 2002, with the aim to expand business and isolate risk. The key incentive for the step was to establish Consultus as a legal entity that was not required to have business transactions approved via the bureaucratic system of the University. The company continued trading as Consultus, but with Unistel Group Holdings (Pty) Ltd, a technology transfer and holding company of Stellenbosch University, as its proprietor (Van Rooyen, 2004).

Figure 4.1. illustrates the affiliation of Consultus with Stellenbosch University, Unistel Holdings, Attrahent, and the association between Consultus and the School of Public Management and Planning. Quantum Public Management School (Pty) Ltd is a joint venture company between Consultus and Pro-Active Public Services College of Pretoria (Unistel Consultus (Pty) Ltd {2}, 2004).

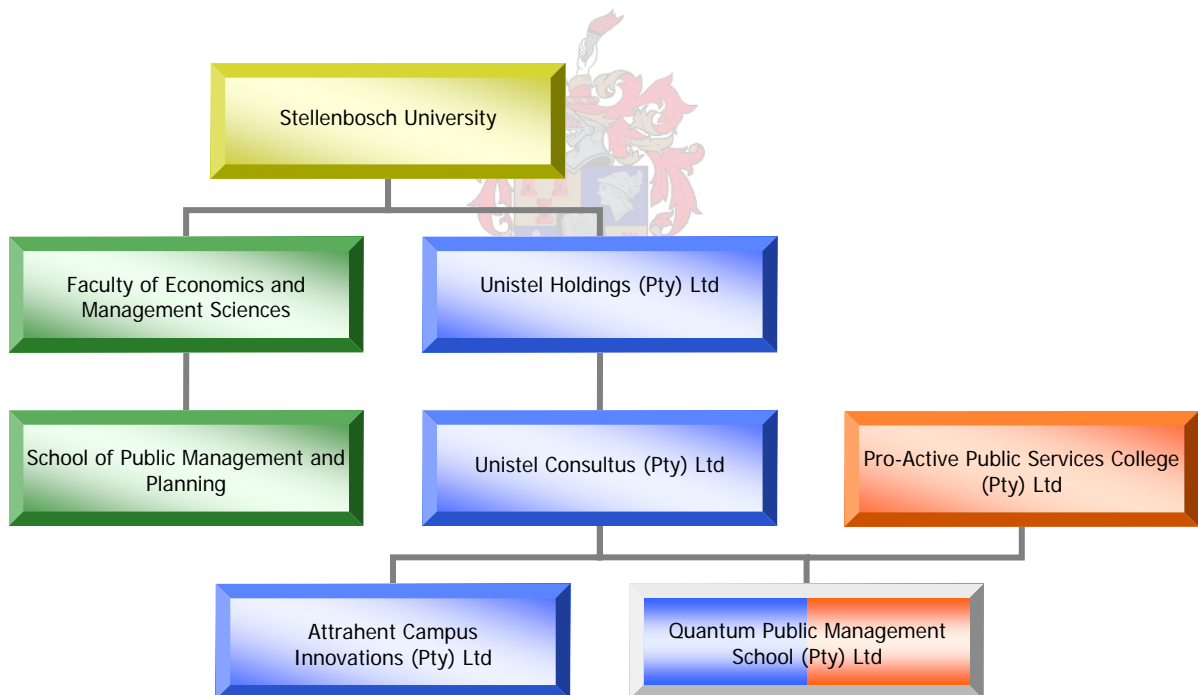


Figure 4.1.: Illustration of affiliated organisations and companies (Unistel Consultus (Pty) Ltd {2}, 2004).

4.2.2. The nature of company's commercial practice

The company consists of five divisions for delivering its commercial capacity:

Consultus Training organises and facilitates outcomes-based short courses that are aimed at management and capacity building for public and development sector organisations.

Consultus Consultation provides consulting services to organisations with challenges, such as performance management, change management, organisational development, strategic planning, and policy analysis.

Consultus Career Services provide a range of human resource services, including personnel recruitment and selection, labour law solutions and human resource development.

Consultus Research offers focused research of issues and problems to improve the performance of public and development sector organisations.

Consultus Conferences provide a comprehensive range of conference services (Unistel Consultus (Pty) Ltd {1}, 2004).



The overall commercial activities of Consultus are solely project based. In addition, the intellectual capacity is supplied by academic resources and associates of primarily Stellenbosch University. Human resources are provided by both permanent and contractual personnel. Permanent employees provide management, coordination, and administration services to the various departments, in addition to short-term projects within the company. The contractual employees or associates are academic professionals and experts providing the specialised intellectual capacity for specific projects regarding research, career services, training, and consultation (Van Rooyen, 2004).

4.2.3. Organisational chart

The organogram (Figure 4.2.) assembled by the author illustrates the distinct levels of human resource distribution. The Project Manager branch indicated in yellow represents the various active projects that differentiate over time. The broad management level demonstrates the co-ordination and collaboration between management.

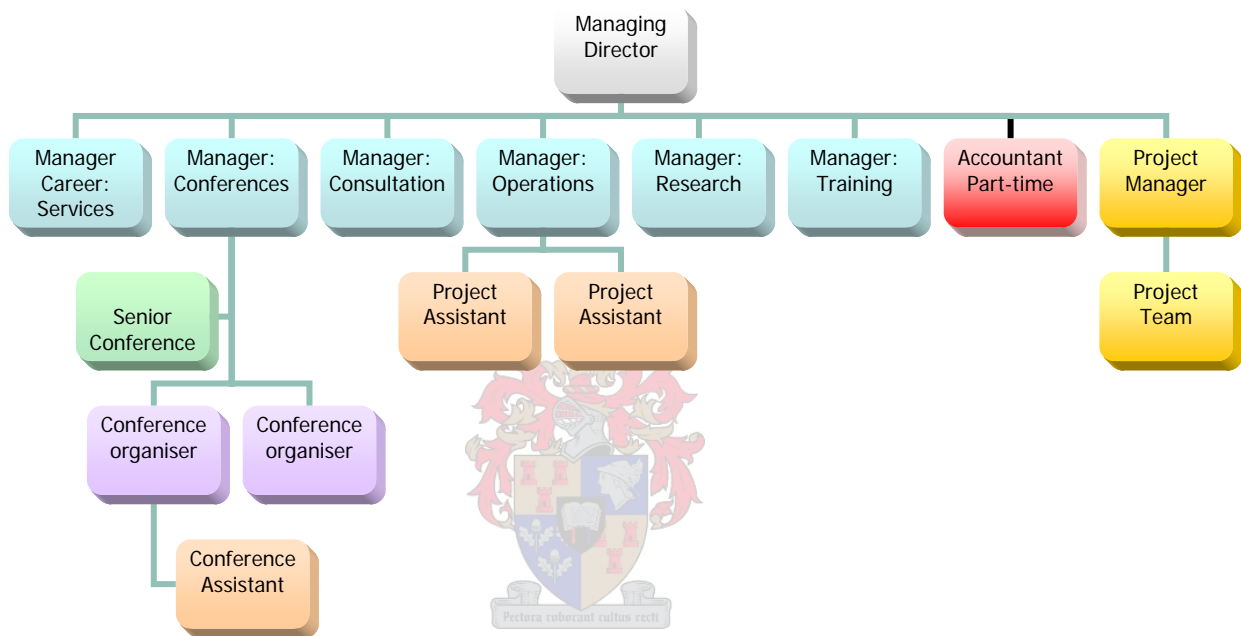


Figure 4.2.: Organisational chart

4.3. ANALYSIS OF THE BUSINESS SYSTEMS AND PROCESSES ACCORDING TO THE BALANCED SCORECARD PERSPECTIVES

Consultus does not apply any contemporary performance management model. Instead, it depends only on restricted methods and uses mainly financial performance indicators to measure and increase its performance (Snyman 2004). These indicators comprise of turnover, net profit, cash flow, and costing comparisons with budgets and statistics of previous financial periods (Van Rooyen, 2004). The above criteria are an essential part of a financial performance evaluation, but clearly lack the extensive view that a Balanced

Scorecard model would provide, as discussed in the previous chapter. In this section, the business systems and processes are explored according to the four perspectives of the Balanced Scorecard to determine the performance structure of the company as basis for the assessment in the next chapter.

4.3.1. Financial perspective

4.3.1.1. Shares and holdings

Unistel Group Holding (Pty) Ltd owns all the share capital issued by Unistel Consultus (Pty) Ltd. Unistel Consultus holds all the issued share capital of Attrahent Campus Innovations (Pty) Ltd and 50% of the issued share capital of Quantum Public Management School (Pty) Ltd (Unistel Consultus (Pty) Ltd, 2003).

4.3.1.2. Financial performance measurement

Financial performance measurement of the company as a whole is performed approximately twice a year, when detailed financial statements are made available (Snyman, 2004). Accounting is performed off site by an external accountant updating the records on a monthly basis. Biannual statements compiled by the accountant and the managing director are not necessarily a true reflection of the company's financial performance at that moment in time. The influence of individual project successes, which can only be established once a project is concluded may obscure the performance measurement of the company as a whole, particularly when the duration of projects is more than 6 months or are not completed when the performance assessment occurs. Projects running simultaneously over a 6-month period complicate accurate statements even further. In such cases, estimates are made, or otherwise omitted to present conservative figures rather than overzealous guesstimates. It is the author's experience that the performance measurement of individual projects is less

complicated since they are quite limited in scope and usually have clear budgets and objectives.

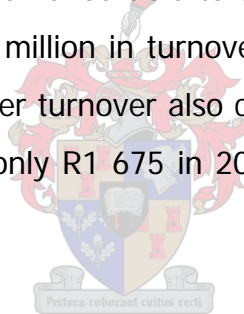
According to the company's Balance Statement for 2003, its fixed assets increased since 2002 from R3500 to R25 678 (Unistel Consultus (Pty) Ltd, 2003). The author may indicate that the fixed assets only represent 2,4% of the total assets of R1, 07 million, which consist mostly of trade assets, such as project surpluses and intellectual property. The managing director, Mr Andries van Rooyen, stated that the company's income is based on 25% of the professional and intellectual fee charged for each project. An intellectual fee based on 10% of the professional fee for each project is paid to the relevant University department. The 25% income from professional and intellectual fee is used to pay for the company's overheads, including salaries, equipment, telephone, and rentals of property and infrastructure. Direct project expenses, such as venue hire and travel expenses, are accounted for separately and not from the company's 25% income. Project budgets are usually calculated to include direct expenses, professional fees and a fallback, which – if not used – is apportioned 50/50 between the company and the contractual professionals who worked on the project. This would happen after the project is completed and financially concluded (Van Rooyen, 2004).

Performance measurement is applied to the company, divisions, and projects and mainly based on key performance indicators (KPIs), such as quantity of projects, turnover, and profit. There is no formal or systematic system for the measurement of these indicators. A financial overview is generally prepared for directors' meetings bearing the statistics on the above indicators (Snyman, 2004). The performance of a conference is also largely measured by its profit and driven by incentive. The cost model for the Conference division is based on a management fee charged on the gross income of a conference, and a share of

the conference profit that serves as incentive to attract more financial sponsorships (Van Rooyen, 2004).

<u>2003</u>	<u>2002</u>
$= \frac{\text{Total Debt}}{\text{Total Assets}} \times \frac{100}{1}$	$= \frac{\text{Total Debt}}{\text{Total Assets}} \times \frac{100}{1}$
$= \frac{R1\ 000\ 972}{R1\ 065\ 822} \times \frac{100}{1}$	$= \frac{R469\ 197}{R532\ 372} \times \frac{100}{1}$
$= 93.9\%$	$= 88.1\%$

An analysis of the debt to asset ratio as pointed out above (Burger & Ducharme, 2000: 6-8) of 93.9% for 2003 shows an increase of 5.8% since 2002. It clearly indicates an escalation of debt unfavourable to a sound solvency. This is partly because of a decrease of R1.3 million in turnover from R5.54 million in 2002 to R4.24 million in 2003. The lower turnover also caused profit to decline with R60 500 from R62 175 in 2002 to only R1 675 in 2003 (Unistel Consultus (Pty) Ltd, 2003).



4.3.2. Internal systems perspective

The company rents its premises and certain services from Stellenbosch University, enabling access to the university's vast information and computer technology (ICT) infrastructure and support. The company uses the latest in computer and office software technology to administer its operations. Consultus has offices on three geographically removed campuses within a radius of 50 km from each other. The administrative centre for training, consultation, research, and career services is situated in the Bellville Park Campus where it is ideally located near the company's largest clients and has access to the short course training facilities provided by the Campus. An additional satellite office is located on Stellenbosch Campus. This office is staffed twice a week by one employee to

support service integration and negotiations with university departments and to extend the company's representation. Consultus Conferences operates from Tygerberg Campus, where the majority of its business resides (Van Rooyen, 2004).

Cost effectiveness and efficiency are managed on an ad hoc basis per project. Although efforts were made to ensure effectiveness and efficiency of project expenditure, there were no consistency or specific indicators and general guidelines of measurement. Matters are further complicated by much of the project expenditure being authorised by the project leader within the university and not by Consultus management. This leads to cost effectiveness and efficiency being controlled from outside the company (Snyman, 2005).

4.3.3. Customer perspective

Consultus has delivered services to various national government departments, provincial government departments, local governments, and numerous other organisations and institutions. Services are generally provided to public and private sector corporations and organisations with a few exceptions of training courses presented to individuals. All spheres of government and public sector institutions are legally bound to acquire services through imposed proposal procedures. The majority of Consultus' clients are therefore, obtained through proposals drafted and presented to meet the requirements of advertised tenders. The expertise for these tenders is acquired by Consultus associates, who are generally inclined to be public sector academics and specialists (Van Rooyen, 2004). In terms of the criteria for comparing and awarding public sector tenders, consideration should not only be given to normal contending requirements for proposals, but also to the company profile, since government organisations are required by law to perform business with organisations based on preferential procurement (Republic of SA, 2000: 2).

The Preferential Procurement Regulations require that a Balanced Scorecard method of measuring Broad-Based Black Economic Empowerment (BBBEE) be used to evaluate the criteria of bids. A company or an organisation is allocated a percentage score for achieving the Government's procurement related socio-economic objectives with a specific focus on Broad-Based Black Economic Empowerment. The evaluation criteria of the scorecard consist of a secondary percentage score allocated to BBBEE achieved in equity ownership, management, employment equity, skills development, preferential procurement, and local content. According to the requirements of the Preferential Procurement Regulations the total of the allocated public tender criteria that are of significance to preferential procurement is 20% for bids under R1 million and 10% for bids above R1 million (Republic of SA, 2004: 7-12). According to several of the BBBEE criteria, Consultus is as a full subsidiary subject to the preferential procurement status of Stellenbosch University. The university has low levels of historically disadvantaged individuals (HDI) and BBBEE levels, since the majority of management resides with historically advantaged individuals. It is frequently find that the company frequently does not meet the requirements for preferential procurement of public tender criteria and often collaborates with other organisations and academic institutions to assemble project teams that meet the representation criteria of public tenders (Snyman, 2004).

Approximately thirty percent of business originates from customers' requests for quotations and about seventy percent derive from tender proposals, as discussed above. Tender proposals are subject to strong competition, which is confirmed by the bid statistics of Consultus. An average of 12% of 61 proposals entered during 2004 were accepted, of which the minimum and maximum value of bids ranged from R50 000 to R2,4 million. During 2004, the successful proposals were distributed amongst 70% for training, 20% for consultation, 9% for research, and 1 % for career services (Snyman, 2005).

Customer satisfaction for training services is measured by the results of course evaluation forms received from participants. The number of participants attending a course is generally used as a KPI for training projects. Consequently, the cost model for the Training Division requires that a minimum number of participants should attend a course so that it would be financially viable (Van Rooyen, 2004). About 90% of clients are satisfied with the training services received. There is no formal evaluation for services provided by the other divisions, but no complaints or negative feedback were received from 2003 to 2004 (Snyman, 2005).

4.3.4. Future and growth perspective

Consultus finds itself in a unique symbiotic business relationship with Stellenbosch University. It has little market freedom in obtaining external intellectual property or the way it pursues its own profit, since the purpose of its existence is the sustainable commercialisation of a variety of the University's intellectual property, by means of the services of its associates. That means it can only sell a product of the University at the sole discretion of the associate(s) or vendor(s) to make use of Consultus as service provider. However, the company may tender for projects, but only after a buy-in and agreement is reached with the contributing associates (Snyman, 2004). It is the author's opinion that this unnatural balance of power between the company and the associate providers of intellectual services impedes growth and development.

Another consequence of the imbalance described above, and of the low and limited project turnover experienced during the last two years, is that the company does not have the financial capacity to endow in a capital or capacity fund. A capacity fund is essential for the provision of capital for new ventures and cash flow security, especially when accumulating project costs continuously

place some strain on the company's cash flow, while income is mostly deferred to the end of a project (Van Rooyen, 2004).

Lastly, in some cases the exclusive use of academics, geographically based at Stellenbosch University, limits the feasible capacity of Consultus to the Western Cape. This may restrict the company's future growth, since many awarded contracts are in Pretoria (National Government Head Offices) and the other eight provinces. Even though Consultus may compete for these contracts, travel and subsistence expenses escalate delivery costs to be often more expensive than companies with locally based expertise (Snyman, 2004).

4.4. CONCLUSION

This chapter provided an overview of Consultus, stressing the history and establishment of the company, the nature of its commercial practice, and organisational structure. The main key performance indicators were discussed subsequent to the analysis of the company's business system and processes by means of the four Balanced Scorecard perspectives.

The lower turnover and unique symbiotic relationship between Consultus, the University of Stellenbosch, and its associates seem to have placed the company in a downward spiral as measured by the financial indicators. However, without integrated measurement and management systems that focus on the entire performance of the organisation and not merely on financial indicators, it is difficult to determine accurately the extent of the impact of these various factors. It also complicates measuring the success of devised strategies aimed at reversing the current negative trends. The next chapter will explore a provisional and theoretical implementation of an integrated performance measurement and management system to overcome the obstacles of the current system.

CHAPTER 5

APPLYING MICROSOFT BALANCED SCORECARD ACCELERATOR IN UNISTEL CONSULTUS (PTY) LTD

5.1. INTRODUCTION

The Business Scorecard Accelerator is theoretically implemented in Unistel Consultus (Pty) Ltd to discover the benefit it holds over the traditional non-electronic methods of performance measurement systems. It is important to bear in mind that there is little difference in the design of the Balanced Scorecard in electronic or non-electronic form. It requires the same process scope and analysis to set up.

The chapter focuses on two fundamental aspects for the application of the Balanced Scorecard Accelerator. The first considers the 15 steps in designing the Balanced Scorecard with specific focus on the compilation of its elements. Pre-definition calibration of the elements is required for the second part that concentrates on the six steps of setting up the Balanced Scorecard Accelerator software.

5.2. COMPILING THE ELEMENTS OF THE BALANCED SCORECARD FOR CONSULTUS

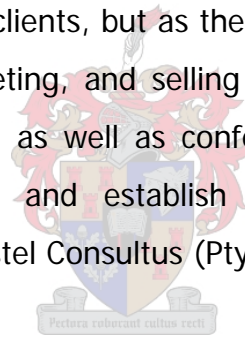
In order to establish and select the perspectives, objectives, and key performance indicators (KPIs) to set up in the Microsoft Business Scorecards Accelerator (MBSA) consideration is given to the process and steps (see 2.4.2) of designing the Balanced Scorecard.

5.2.1. The organisational role and definition

The organisational role and definition were discussed in the previous chapter and therefore, no further elaboration on this topic is necessary.

5.2.2. Restating the organisational vision

There is no transcript of a formal vision available, except for visionary objectives resulting from a strategic planning session of the board of directors that were made available by the secretary of the board (Snyman, 2004). According to the strategic planning session, it is the vision of Consultus to operate as a service delivery agent for Stellenbosch University. It embrace the positioning of Consultus not only to external clients, but as the first choice within the university structure for packaging, marketing, and selling of intellectual products, and to provide career path brokering, as well as conference organising. In addition, Consultus strives to develop and establish unique training and business opportunities for students (Unistel Consultus (Pty) Ltd, 2002).



5.2.3. Establish the perspectives

The four perspectives of the Balanced Scorecard methodology are incorporated as the financial perspective, customer perspective, internal systems perspective, and future and growth perspective. A fifth perspective is added, namely the stakeholder perspective, to accommodate the unique nature of the symbiotic relationship between Consultus, its associates, and Stellenbosch University as discussed in chapter four.

5.2.4. Analysis of the vision in terms of the five perspectives to formulate strategic objectives and KPIs

5.2.4.1. Financial perspective

According to Dempsey and Pieters (1999: 557-558) in Burger and Ducharme (2000: 6), a financial benchmark or ratio is the relationship between two different amounts which is expressed in a simple manner. These financial figures and ratios are mostly based on passed financial statistics in order to measure performance against KPIs and objectives. Ratios are merely measurements that have to be explored in context to ensure that it reveals the relevant information intended for the KPI. The financial perspective with the financial management objectives in mind is grouped in three categories of KPIs, namely: debt, asset and profit (Burger and Ducharme: 2000, 6).

(I) Debt management objectives

- a) Objective: Sound management of debt and creditor accounts to support financial and asset growth.

KPI: The debt to assets percentage calculates the total debt including long-term liabilities, current liabilities, and consumer deposits as a percentage of the total assets including fixed assets, investments, long-term debtors, and current assets (Burger and Ducharme: 2000, 7).

$$* \text{ Debt to assets percentage} = \frac{\text{Total debt}}{\text{Total assets}} \times \frac{100}{1}$$

KPI: The total interest paid, expressed as a percentage of the total operating expenditure for previous periods, could indicate interest rate differences as well as the fluctuation of unpaid debt (Burger and Ducharme: 2000, 8).

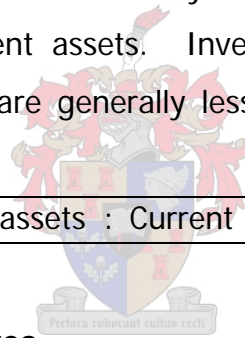
$$* \text{ Interest paid as percentage of operating expenditure} = \frac{\text{Interest paid}}{\text{Operating expenditure}} \times \frac{100}{1}$$

KPI: The total creditors' interest paid expressed as a percentage of the average interest bearing creditors debt. The average interest bearing creditors debt is calculated by the average opening and closing balances of all interest charging creditor accounts. Trends could be determined if the results of previous periods are compared (Burger and Ducharme: 2000, 7).

$$\text{Creditors' interest paid on debt percentage} = \frac{* \text{ Total creditors interest paid}}{\text{Average creditors interest bearing dept}} \times \frac{100}{1}$$

KPI: The acid test ratio indicates the ability to meet short-term commitments from liquid or monetary current assets. Inventory items are excluded from monetary assets, since these are generally less liquid (Burger and Ducharme: 2000, 8).

$$* \text{ Acid test ratio} = \text{Monetary assets} : \text{Current liabilities}$$



(II) **Asset management objectives**

- a) **Objective:** Good financial viability and sustainability of the company.

The net surplus before appropriations defined as a percentage of the total assets indicates the company's ability to generate a net surplus with a given total asset base (Burger & Ducharme, 2000: 9).

$$* \text{ Return on capital invested} = \frac{\text{Net surplus before appropriations}}{\text{Total assets}} \times \frac{100}{1}$$

KPI: The debtors' collection period indicates the effectiveness of the company's debt collection system expressed in total outstanding debtor days (Burger & Ducharme, 2000: 10).

$$* \text{ Debtors collection period} = \frac{\text{Total outstanding debtors' revenue}}{\text{Revenue}} \times \frac{365}{1}$$

(III) Profit management objectives

- a) Objective: Yield adequate income over expenditure to cover the company's fixed expenses including salaries, equipment, telephone, and rentals of property and infrastructure.

KPI: The Company's operating expenses expressed as a percentage of the total income. An increase between years will indicate a negative trend (Burger & Ducharme, 2000: 11).

$$* \text{ Operating expenses as \% of income} = \frac{\text{Total operating expenses}}{\text{Income}} \times \frac{100}{1}$$

- b) Objective: Generate adequate individual project income to cover project expenses, including the intellectual property fee to Stellenbosch University and the company income share based on 25% of professional and intellectual fee.

KPI: A project's ratio of expenditure over income can clearly indicate a project's financial capacity to cover its expenses.

$$* \text{ Project expenses as \% of project income} = \frac{\text{Total project expenses}}{\text{Project income}} \times \frac{100}{1}$$

- c) Objective: Generate adequate project income to finance the intellectual property fee of the relevant University department.

KPI: The number of projects that were not able to fund the intellectual property fee in full, as a percentage of the total number of projects.

$$\% \text{ of unable projects} = \frac{\text{No of unable projects}}{\text{Total no of projects}} \times \frac{100}{1}$$

KPI: The total amount of the intellectual fee not paid as percentage of the total amount of the intellectual fee that should have been paid.

$$\% \text{ of fees not paid} = \frac{\text{Total amount not paid}}{\text{Total amount paid including those not paid}} \times \frac{100}{1}$$

- d) Objective: Generate adequate project income to finance company income based on 25% of professional and intellectual fee.

KPI: Number of projects that were not able to fund the company income share in full as a percentage of the total number of projects.

$$\% \text{ of unable projects} = \frac{\text{No of unable projects}}{\text{Total no of projects}} \times \frac{100}{1}$$

KPI: The total amount of the income share not paid as percentage of the total amount of income share that should have been paid.

$$\% \text{ of income share not paid} = \frac{\text{Total amount not paid}}{\text{Total amount paid including those not paid}} \times \frac{100}{1}$$

- * Formulas from Performance measurement in local government: Reconciling financial performance with other performance indicators (Burger & Ducharme 2000: 6-11).

5.2.4.2. Customer perspective

Consultus generally sells services and products of an extensive nature to a limited client base. Consequently, business depends on sustained customer satisfaction and, subsequently on meaningful service feedback efforts. It is recommended that the data for measurement of several of the KPIs mentioned

hereunder, be acquired through the standard evaluation form (in case of training projects), and structured interviews with corporate clients and organisations upon completion of the appropriate projects. Structured interviews will improve on the evaluation methodology of forms and reduce poor insight and curtailed evaluation efforts. Additionally, interviews present augmented substance to the assessment of project outcomes.

- a) Objective: Customer satisfaction in terms of the quality of the product and the services.

KPI: Number of clients who include Consultus in their preferred service provider database, if applicable.

KPI: The percentage of revisiting clients: clients who purchase services and products more than once.

KPI: The percentage of individual participants who evaluate the quality of the product and services as satisfactory, according to data acquired from individual course evaluation forms.

KPI: The percentage of clients who evaluated the quality of the product and services as satisfactory, in accordance with data acquired from structured interviews with corporate clients, based on the project outputs and outcomes.

- b) Objective: Satisfaction of customer requirements in terms of quality, methodology, and price.

KPI: The percentage of clients who evaluate the quality of the product and services as satisfactory according to their requirements. Obtain data from structured interviews with clients, based on project outputs and outcomes.

KPI: The percentage of clients who evaluate the methodology of the product and services as satisfactory according to their requirements. Obtain data from structured interviews with clients, based on project outputs and outcomes.

KPI: The percentage of clients who evaluate the price of the product and services as satisfactory according to their requirements. Obtain data from structured interviews with clients based on project outputs and outcomes.

KPI: The number of tenders awarded as a percentage of the number of tenders applied for.

KPI: The project value of tenders awarded as a percentage of the project value of tenders applied for.

- c) Objective: Satisfaction of customer requirements in terms of the company's equity plan and demographical representativeness.

KPI: The percentage of clients who evaluate the company's equity plan and demographic representativeness as satisfactory to their requirements. Obtain data from structured interviews with clients based on project outputs and outcomes.

- d) Objective: Satisfaction of customer requirements in terms of project outcomes.



KPI: The percentage of clients who evaluate the project outcomes as satisfactory to their requirements. Obtain data from structured interviews with clients, based on project outputs and outcomes.

5.2.4.3. Internal systems perspective

Effective and efficient internal systems and processes are fundamental to ensure quality outputs at competing prices. The objectives and especially KPIs for the Internal Systems Perspective of the corporate level scorecard are designed as strategic measurements, which therefore, do not incorporate technical and operational measurements. The analytical nature of technical and operational measurements is better suited at departmental and individual scorecard level.

a) Objective: Effective and efficient management and administration pertaining to:

- General administration and management
- Project administration and management
- Course administration and management
- Conference administration and management
- Financial administration and management
- Human Resource administration and management
- Information and computer technology (ICT) administration and management

KPI: Each of the above objectives is measured in terms of the existence of policy and standard operating procedures that guide administration and management.

KPI: Each of the above objectives is measured in terms of its compliance with the existing policy and standard operating procedures.

b) Objective: Effective and efficient cooperation between corporate managers, project managers, project team members and support staff.

KPI: The existence of specified and agreed individual task distribution.

KPI: Compliance with the agreed specified individual task distribution.

c) Objective: Effective and efficient marketing and marketing strategies.

KPI: The existence of adequate marketing tasks in the job descriptions of the responsible employees.

KPI: The compliance of responsible employees with the marketing tasks of their job descriptions.

KPI: The existence of an adequate marketing strategy policy.

KPI: The compliance of responsible personnel to the policy of marketing strategy.

5.2.4.4. Stakeholder perspective

The stakeholder perspective accommodates the unique nature of the symbiotic relationship between Consultus, its associates, and Stellenbosch University. The stakeholders form the intellectual capacity of Consultus and play a vital role in the delivery of products and services. Efficient and sustainable delivery of products and services is, therefore, dependant on stakeholder satisfaction.

- a) Objective: Providing sufficient benefit to associates participating in projects to encourage further involvement and loyalty to the organisation.

KPI: Percentage at which the professional hourly rate is consistent with the average market rate.

KPI: The existence of additional incentives excluding professional remuneration is indicative of additional encouragement.

KPI: Total number of project participating associates each year as a ratio of the sum of all the project values for that year, thus establishing an average value per associate that were available for the particular year.

- b) Objective: To be the first choice within the university structure for packaging, marketing, and selling of intellectual products, and to provide career path brokering, as well as conference organising.

KPI: The number of projects using the services of Consultus expressed as a percentage of all projects of the university stakeholders that fall within the scope of Consultus activities.

- c) Objective: Providing adequate income to the Holding company, Unistel (Pty) Ltd.

KPI: The percentage of turnover paid over to Unistel.

- d) Objective: Establish unique training and business opportunities for students

KPI: The number of students accommodated in training and business opportunities.

5.2.4.5. Future and growth perspective

The future and growth of Consultus could be ascertained for as much as the University regulates the company's status to be the sole medium of short course training, consultation, conference, and career services. The company has little market freedom in obtaining external intellectual property or the way it pursues its own profit and is, therefore, dependant on the support of the University in this regard. Capacity may be extended through partnerships to the rest of the country and especially to institutions in Pretoria to overcome geographical restrictions and limit additional transport costs. It is essential that a capacity fund be established through which new ventures and cash flow may be secured.

- a) Objective: The establishment of an adequate capacity fund to enable further expansion and growth

KPI: The percentage of profit invested to provide for a capacity fund.

- b) Objective: Identify and pursue new opportunities.

KPI: Strategic planning sessions at least once per year.

KPI: Formulation and sustaining of short, medium, and long-term strategy plans.

KPI: Number and value of business projects obtained from new clients as percentage of total number and value of all projects.

- c) Objective: The establishment of geographically removed partnerships in other provinces and areas to broaden the feasible capacity of the company.

KPI: Number of partners in regions other than the south-western part of the Western Cape.

KPI: The number of active partners collaborating in projects in any specific year as a percentage of the total number of existing partners.

5.2.5. Steps 5 to 11 of developing the Balanced Scorecard

The chapter has thus far focussed on building the elements and framework of the Balanced Scorecard for Consultus. This is an essential phase in order to establish the theoretical parameters needed to build and set up the Microsoft Business Scorecards Accelerator. The technical and strategic emphasis of steps 5, 6, 9, and 10 (see 2.4.2.) that requires management to determine the critical success factors, cause-and-effects relationships, formulate objectives, and develop action plans, is excluded from the scope of this study. The information required for these steps has not been ascertained by management and will mostly be significant to a longitudinal study of the business outcome after implementing the Balanced Scorecard Accelerator. Furthermore, it holds little consequence to the initial setup of the Balanced Scorecard Accelerator. For the same reason, Steps 7 and 8 are not elaborated further, as they refer mostly to a breakdown of the organisational Balanced Scorecard to organisational and individual level, but these have no impact on the framework of the Balanced Scorecard as established in this study.

5.3. SETTING UP THE MICROSOFT BUSINESS SCORECARDS ACCELERATOR

There are various ways of building and setting up the MBSA. The successful completion of the set up process depends on a well-planned Balanced Scorecard with established parameters, the MBSA add-in installation on a web server, compliance with the requirements as set out in 3.3.3., and the existence of OLAP cubes from which the Business Scorecards would draw its data. The basic recommended procedure for creating a new scorecard may be an iterative process consisting of 6 steps (Microsoft Corporation {3}, 2004.):

5.3.1. Steps for creating a Balanced Scorecard with MBSA

5.3.1.1. Step 1. – Defining the elements of the Balanced Scorecard

The link to the Scorecard Elements is used to create Balanced Scorecard perspectives, objectives, themes, initiatives, and KPIs as reusable components that could be incorporated into any number of scorecards (Microsoft Corporation {3}, 2004.).

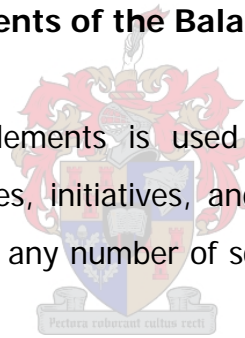


Figure 5.1. illustrates the five perspectives as discussed in 5.2.3. after being set up. Objectives and KPIs are created in a similarly iterative fashion. Figure 5.2. illustrates the KPIs as defined within every perspective's objective. All elements including individual KPIs may be defined with a multi-line description, the name or e-mail address of the individual for further information, and links to additional documents that provide information, background, and so forth. All KPIs are created by defining the data type (decimal, percent, days, or currency), time period of periodic data collection (daily, weekly, monthly, quarterly, or annually), trend of value (indicating increase or decrease as desirable), and the weight of the value to calculate its value in relation to other KPIs when rolled up to a next level (Microsoft Corporation {3}, 2004.).

The screenshot shows the MBSA Scorecard Elements interface. On the left, the 'Scorecard Modules' pane is open to 'Scorecard Elements'. The 'Elements' pane shows a tree view with 'Balanced Scorecard Elements' expanded to 'Perspectives', and 'Customer Perspective' selected. The 'Attributes' pane displays the following table:

Attribute Name	Attribute Value(s)
Perspective Name	Customer Perspective
Description	Consultus generally sells services and products of an extensive nature to a limited client base. Consequently business is dependant on sustained customer satisfaction and therefore rationalise meaningful service feedback efforts.
Contact Name	S van Rooyen
Additional Documents	
Weight	100
Indicator	Stoplight (3)
Created	Date created: 1/6/2005 12:07:01 PM Created by: BELPARK\jrabie
Last Updated	Date updated: 5/22/2005 1:18:24 PM Updated by: BELPARK\jrabie

Figure 5.1.: View of the Scorecard Elements in the MBSA with its perspectives expanded.

The screenshot shows the MBSA Scorecard Elements interface. On the left, the 'Scorecard Modules' pane is open to 'Scorecard Elements'. The 'Elements' pane shows a tree view with 'KPIs (All Scorecards)' expanded to show a list of 11 KPIs, with '11) Satisfaction of outcomes' selected. The 'Attributes' pane displays the following table:

Attribute Name	Attribute Value(s)
KPI Name	11) Satisfaction of outcomes
Description	The percentage of clients that evaluates the project outcomes as satisfactory to their requirements. Attain data from structured interviews with clients based on project outputs and outcomes.
Contact Name	BELPARK\jrabie
Additional Documents	
Unit Of Measure	Percent
Frequency	Monthly
Trend	Increasing
Model Value	70%
Previous Model Value	70%
Target Model Value	80%
Weight	10
Indicator	Stoplight (3)
Created	Date created: 1/6/2005 12:38:06 PM Created by: BELPARK\jrabie
Last Updated	Date updated: 5/22/2005 2:02:10 PM Updated by: BELPARK\jrabie

Figure 5.2.: View of the Scorecard Elements in the MBSA with their KPIs expanded.

It should be borne in mind that during the first step the different perspectives, objectives, and KPIs are created individually with no link to each other. The link between the elements is only established during the second step of the building process. KPI groups could be constructed to group certain KPIs together that are later linked to an objective (Microsoft Corporation {3}, 2004.).

5.3.1.2. Step 2. – Building the Balanced Scorecard

In this step, the Balanced Scorecard is defined by including the previously created perspectives, objectives, KPIs, themes, and initiatives through the Scorecard Builder. Each KPI is linked to a KPI group if applicable and then to an objective. Likewise, each objective is linked to a perspective, which would roll up to a specific scorecard. Numerous scorecards may be created on all levels of an organisation, from corporate, departmental down to individual level (Microsoft Corporation {3}, 2004.). Figure 5.3. illustrates the Balanced Scorecard for Consultus with its allocated elements of which the Customer Perspective is expanded to the KPI level.

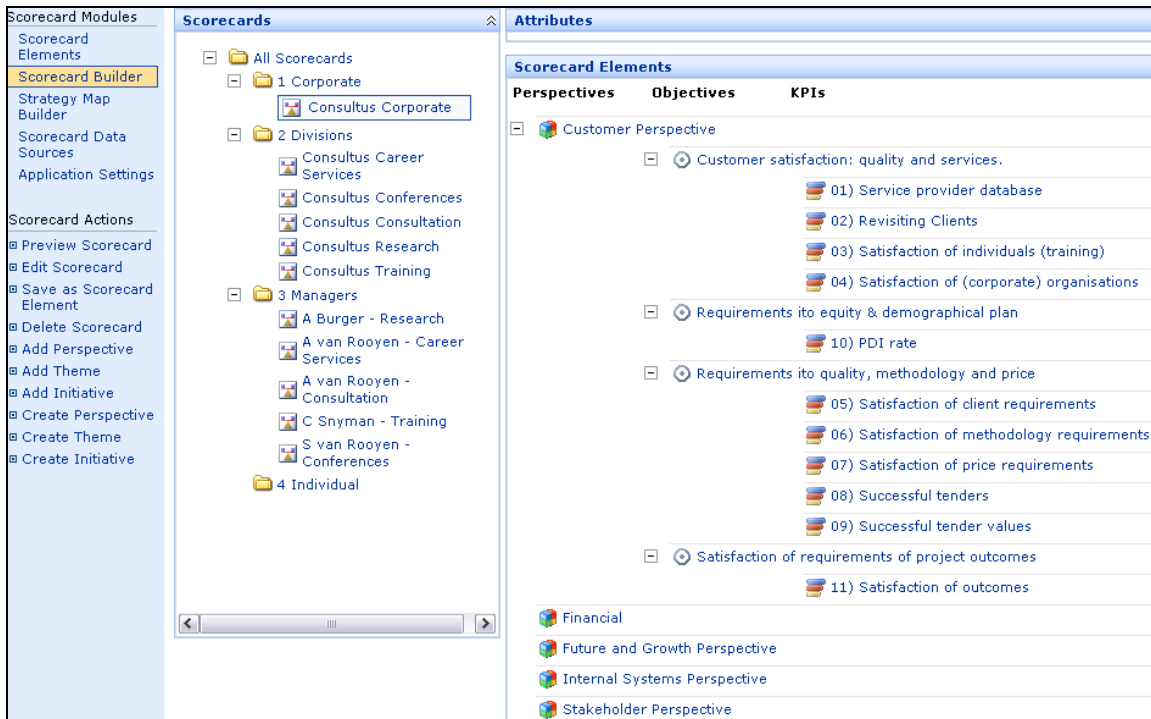


Figure 5.3.: View of the Scorecard Builder in the MBSA illustrating the links between the elements of the Balanced Scorecard.

5.3.1.3. Step 3 -Design a strategy map

The Strategy Map Builder is used to create a strategy map or a graphical representation of the Balanced Scorecard. It aims to create a map of the organisation's strategy through visually representing the value-chain of processes in order to achieve the desired results (Becker, Huselid & Ulrich, 2001:40-41).

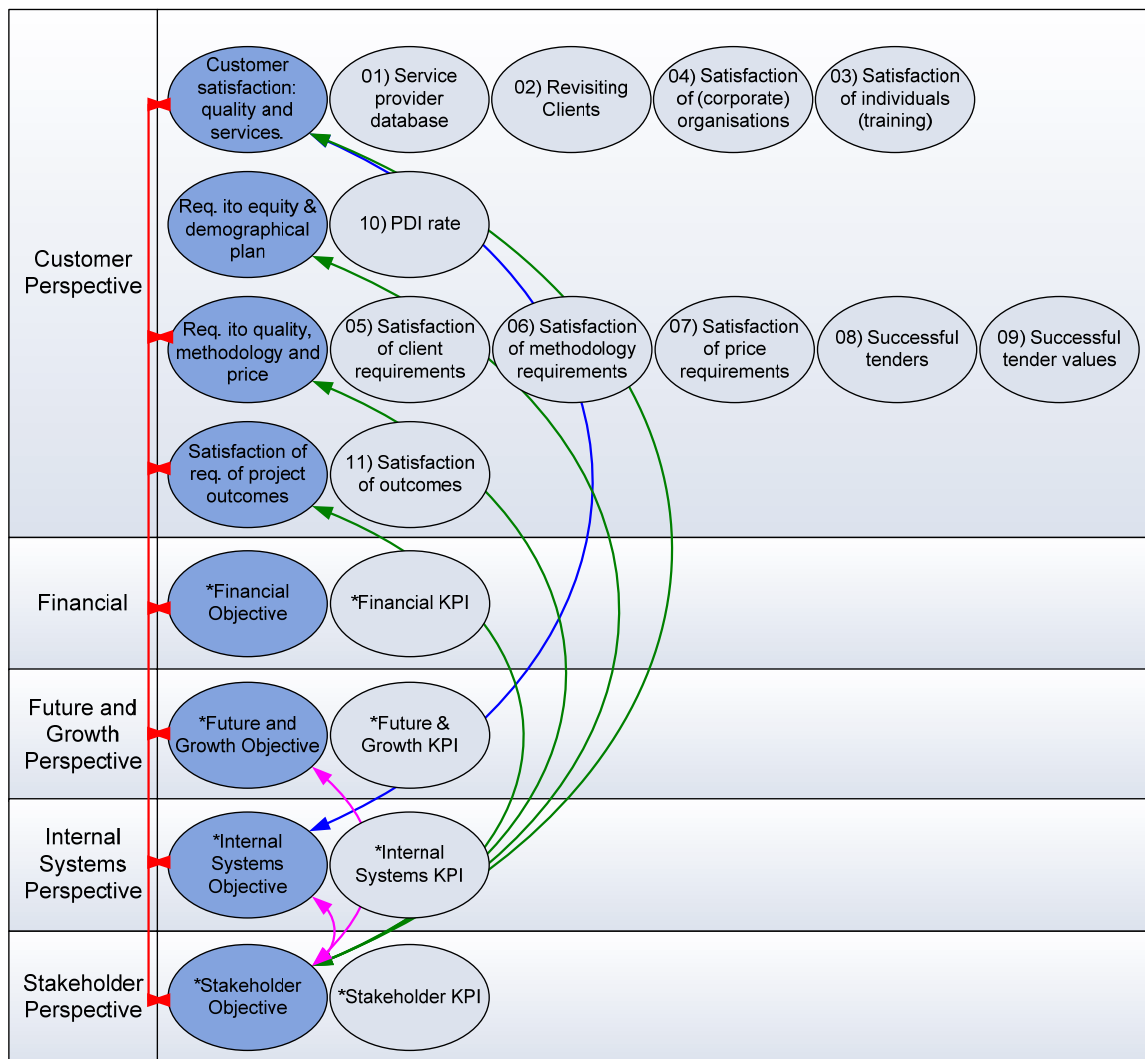


Figure 5.4.: An illustration of the Strategy Map of Unistel Consultus (Pty) Ltd.

Figure 5.4. illustrates an example of a strategy map compiled from the Balanced Scorecard of Consultus by using the Strategy Map Builder and Microsoft Visio 2003. The map represents the perspectives, objectives, and KPIs of the

organisational Balanced Scorecard that have been linked to indicate the general chain of processes and influences during the course of business. The stakeholder objective would for instance influence the objectives of the customer perspective and vice versa, thus creating a chain of processes to evaluate and manage.

There is no formal strategy in existence for the company and the chain of processes and influences are, therefore, indicated according to the core operations as described in chapter 4. The creation of the strategy map is for the purpose of this study merely shown to indicate the assistance of the software. Consequently, the customer perspective is shown in full and all other perspectives rolled up to for ease of reference. In the design of this example, the Strategy Map Builder was used to create the elements of the Balanced Scorecard automatically, but the chain of directions had to be added, and formatting and alignment of the objects were done manually with the use of Microsoft Visio 2003.

5.3.1.4. Step 4 - Establish the Scorecard data sources

In this step, the scorecard module is mapped to an OLAP cube (see 3.3.3.) that contains the multidimensional data structure defined by dimensions, measures, hierarchies, and levels to be processed. A cube is designed to meet the analysis needs of the functional area of the organisation. It is required that a new cube be set up if an existing one cannot be modified (Microsoft Corporation {3}, 2004.). It needs to be borne in mind that the database cube should contain all the relevant data needed for the specific scorecard, since a scorecard may be linked to only one cube (Microsoft Corporation {1}, 2004:5, 8).

5.3.1.5. Step 5 – Design the view of the Balanced Scorecard

The default view of the MBSA is displayed in Figure 5.5 and may be modified according to the individual scorecard requirements at different levels of the organisation (Microsoft Corporation {3}, 2004.).

Scorecard	Previous	Current	Target	Status	Trend	Contact
[-] Consultus Corporate	77.25%	57.04%		▲	↘	A van Rooyen
[-] Customer Perspective	56.2%	57.45%		▲	↗	A van Rooyen
[-] Customer satisfaction: quality and services.	43.06%	56.94%		▲	↗	A van Rooyen
01) Service provider database	10	25	30	●	↗	C Snyman
02) Revisiting Clients	1.5	1.5	3	▲	→	C Snyman
03) Satisfaction of individuals (training)	50%	50%	80%	▲	→	C Snyman
04) Satisfaction of (corporate) organisations	60%	60%	80%	●	→	C Snyman
[-] Requirements its equity & demographical plan	42.86%	42.86%		▲	→	A van Rooyen
10) PDI rate	40	40	70	▲	→	A van Rooyen
[-] Requirements its quality, methodology and price	55.56%	46.67%		▲	↘	A van Rooyen
05) Satisfaction of client requirements	50%	50%	80%	▲	→	C Snyman
06) Satisfaction of methodology requirements	50%	50%	80%	▲	→	C Snyman
07) Satisfaction of price requirements	50%	50%	80%	▲	→	C Snyman
08) Successful tenders	50%	50%	80%	▲	→	A van Rooyen
09) Successful tender values	50%	30%	60%	▲	↘	A van Rooyen
[-] Satisfaction of requirements of project outcomes	83.33%	83.33%		●	→	C Snyman
11) Satisfaction of outcomes	70%	70%	80%	●	→	C Snyman
[+] Financial	90.74%	32.5%		◆	↘	A van Rooyen
[+] Future and Growth Perspective	80.95%	61.9%		▲	↘	A van Rooyen
[+] Internal Systems Perspective	75%	83.33%		●	↗	A van Rooyen
[+] Stakeholder Perspective	83.33%	50%		▲	↘	A van Rooyen

Figure 5.5.: View of the Balanced Scorecard in the MBSA.

5.3.1.6. Step 6 – Application settings



The Application Settings module is used to customise attributes of scorecard elements, specify users, groups and authorisation, create new indicators or edit existing indicators and manage advanced Business Scorecards settings (Microsoft Corporation {3}, 2004.).

5.4. CONCLUSION

The Business Scorecard Accelerator is merely a shell with advanced capabilities that could be implemented to assist in the performance management process. Concisely stated, a tool is only as good as the hand that operates it. It implies extensive research, definition, and application of the processes and steps to

compile the Balanced Scorecard. This process is applicable to both a manual and software based Balanced Scorecard system. The software-based system's advantages, however, appear in the ease of capturing and processing data that are instantly displayed in the electronic OLAP performance measuring system. This will be elaborated on in the next chapter.

Specific focus was given to the design and definition of the elements when the steps of compiling the Balanced Scorecard were discussed. These elements are essential building blocks for setting up the Microsoft Business Scorecards Accelerator. The programme requires precise measurements against which the organisation's performance is to be measured. For this purpose the individual perspectives, objectives, and KPIs of Consultus were formulated. This initialised the final process of setting up the MBSA software with attention to the layout and linkage of the elements in the corporate Balanced Scorecard of the company.

The next chapter concludes this thesis by summarising the benefits and shortcomings of utilising the Microsoft Business Scorecards Accelerator in establishing a Balanced Scorecard for an organisation.

CHAPTER 6

FINAL FINDINGS AND CONCLUSION

6.1. Introduction

In brief, it has been established in the study that the (ultimate) objective of performance management is primarily to ensure optimum sustainable outputs and outcomes with the most cost effective inputs. Performance management is a complex process that requires performance analysis and measurement within all areas of organisational processes, actions, and vision, including the area of traditional financial performance measurement. The Balanced Scorecard was the selected model to establish the performance measurement process, bearing in mind that the model (Balanced Scorecard) and electronic support (MBSA) is simply the tool used to monitor and report on the current performance of the organisation. Accordingly, it is also referred to as electronic performance management support or electronic performance measurement tools, whilst these also formed the central focal point of the study. The two primary objectives of a performance measurement tool is thus to effectively and efficiently monitor organisational processes and to promptly report to management and consequently, empowering them to take adequate action. Ultimately, management needs to react (manage) timely to the information provided by the performance measurement tools to ensure optimum outputs and outcomes.

This chapter commences with a summary of the preceding chapters. Thereafter it provides final comments on the benefits and shortcomings of using the Microsoft Business Scorecards Accelerator in designing a Balanced Scorecard for an organisation. The thesis concludes with the limitations of this study and opportunities for further research.

6.2. Summary of preceding chapters

Subsequent to the introduction in chapter one, chapter two provided an overview on the theory of the Balanced Scorecard and the effects of outcomes measures of performance drivers. The chapter commenced with an overview of various models for performance measurement before exploring the Balanced Scorecard model. Consideration was given to the scope of the Balanced Scorecard, prior to the 11 fundamental development steps of establishing a Balanced Scorecard. Critique on the Balanced Scorecard was divided in 3 major categories of failure relating to what, why, and how the Balanced Scorecard is applied. It was concluded that the Balanced Scorecard could be applied successfully if careful consideration is given to the challenges and pitfalls. The chapter also explored manual versus software driven integration of data. The theory on the Balanced Scorecard set the basis for the discussion, whilst the outcomes measures of performance drivers focussed on the inputs, outputs, outcomes, and effects of the cyclical process of performance. It was concluded that the use of partial software support is inevitable and the implementation of fully integrated software systems is part of the answer to the growing performance management needs.

Chapter three explored the Balanced Scorecard software available on the market as well as criteria for selecting from a range of software packages. The chapter started with the scientific process of selecting appropriate Balanced Scorecard software based on explicit criteria to evaluate and match software with the needs of an organisation. Thereafter, available standards and service providers certified by the Balanced Scorecard Collaborative as complying with the functional standards requirement were explored. A brief summary was provided of the Balanced Scorecard software of CorVu, SAS, SAP, QPR, Oracle, Peoplesoft, and Microsoft that were selected from the 20 certified service providers of the Balanced Scorecard Collaborative. The Microsoft Business Scorecards

Accelerator (MBSA) distinguished itself as the only Balanced Scorecard software available free of charge. It was established that CorVu, SAS, SAP, QPR, Peoplesoft, and Oracle, which are widely applied in the South African market are extensive and costly solutions that generally require comprehensive knowledge, training, and support of not only the Balanced Scorecard software, but also the group of business management software in which it is incorporated. Although the MBSA requires an existing Microsoft software environment that includes Microsoft Office 2003 and server specific software, the rollout and implementation could be done at little or no cost if these requirements are in place. The MBSA enables users to utilise familiar tools to access, analyse data, and automate processes with speed and accuracy.

Chapter four investigated the current business structure and performance of Unistel Consultus (Pty) Ltd as an example of a company currently measuring its performance solely against financial indicators. The object of the chapter was to explore differences in the performance rating of the company when moving beyond the traditional indicators to indicators based on a contemporary performance management model, supported by electronic management systems. The chapter provided an overview of the company, with emphasis on the history and establishment of the company as well as the nature of its commercial practice and organisational structure. The company's business system and processes were analysed according to the four Balanced Scorecard perspectives: financial perspective, internal systems perspective, customer perspective, and future and growth perspective. In addition, the main key performance indicators were perused against which performance of the company is measured. The chapter concluded, on "the lower turnover and unique symbiotic relationship between Consultus, the University, and its associates that seem to have placed the company in a downward spiral as measured by its financial indicators. However, without integrated measurement and management systems that focus on the entire performance of the organisation and not just financial indicators, it

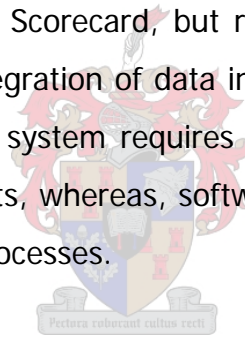
is difficult to determine accurately the extent of the impact of these various factors. It also complicates measuring the success of devised strategies aimed at reversing the current negative trends.” The analysis provided a foundation for a theoretical implementation of the Balanced Scorecard by means of the Microsoft Balanced Scorecard Accelerator software to improve performance management in the organisation.

Chapter five provided a provisional and theoretical implementation of an integrated performance measurement and management system to overcome the obstacles of the current system. The chapter utilised the Business Scorecard Accelerator to develop an integrated performance management system based on the standard four Balanced Scorecard perspectives with the addition of a fifth perspective, namely the stakeholder perspective, that accommodated the unique nature of the symbiotic relationship between Consultus, its associates, and Stellenbosch University. The chapter focused on two fundamental aspects for the application of the Balanced Scorecard Accelerator. The first considered the fifteen steps in designing the Balanced Scorecard with specific focus on the compilation of the essential elements for setting up the Microsoft Business Scorecards Accelerator. As the programme requires precise measurements against which the organisation’s performance is to be assessed, the individual perspectives, objectives, and KPIs of Consultus were formulated. The second part of the chapter concentrated on the six steps of setting up the Balanced Scorecard Accelerator software, including the layout and linkage of the elements in the corporate Balanced Scorecard of the company. The chapter concluded that in essence there is little difference in the design of the Balanced Scorecard in electronic or non-electronic form. It requires the same process scope and analysis to set up. However, the advantages of the software-based system appear to lie in the ease of capturing and processing data to display it instantly in the electronic OLAP performance measuring system.

The theoretical implementation of the Business Scorecard Accelerator in Unistel Consultus (Pty) Ltd provides a base for exploring the benefits and shortcomings of the electronic system in contrast with the traditional non-electronic methods of performance measurement systems. The next part of this chapter will be devoted to exploring these benefits and shortcomings.

6.3. Benefits and shortcomings of the electronic PMS (MBSA)

The application of the Balanced Scorecard requires considerable efforts in continuous information gathering and processing. Data resources are commonly already in an electronic format produced by general around the office software or of data warehouse origins. It is, therefore, not a case of hand opposed to electronic setup of a Balanced Scorecard, but rather the use of manual versus automated software driven integration of data into a central Balanced Scorecard system. A manually operated system requires manual calculation and periodic updating of performance reports, whereas, software integrated solutions provide reports based on automated processes.



The basis for specialised Balanced Scorecard software such as the MBSA is considered its ability to retrieve numerical information from the organisation's wide range of transaction systems, and to present this as a performance report. The MBSA performs a prominent role during the distinctive stages of the Balanced Scorecard project: Initial stages, breaking-down and linking the scorecard, setting targets and monitoring performance, and managing strategic activities. This includes the implementation of tools as defined by Olve et al (see chapter 2) such as the Strategy Map builder (MBSA) to illustrate and validate strategy maps, features that connect vision, strategic goals, critical success factors, measures, action plans, and a medium that enable employees to share knowledge and insight to improve business performance.

6.3.1. Benefits of the MBSA or electronic PMS

There is little difference in the design of the Balanced Scorecard in electronic or non-electronic form. It requires the same process scope and analysis to set up. The advantages of the MBSA in comparison with a manual system would only start to become evident following implementation with actual performance measurement. The software-based system's advantages appear in the ease of capturing and processing data that are instantly displayed in the electronic OLAP performance measuring system. The benefits of the MBSA or an electronic PMS over a manual system are listed below:

- An electronic system provides quick user access to the virtual monitoring devices and ensures prompt performance feedback even with increasing data quantities and extensive institutions to manage.
- The MBSA prevents manual input and calculation errors since data integration into the Balanced Scorecard is pre-programmed and tested by its providers.
- The system allows quick presentation layout changes that could accommodate different levels of technical specification. This is beneficial when simple presentation layouts are required to suit low levels of literacy, especially in developing countries such as South Africa.
- Different security and access levels to information may be set up to allow practically all employees to access the MBSA system for purposes of information transparency through to advanced management of data.
- Communications through this medium are possible to all employees that have access to a personal computer.
- The web-based infrastructure of the MBSA allows it to be globally accessible through the internet.
- The strategy map builder and Microsoft Visio enables automated translation of feedback, results, and strategy into strategy maps.

- Compatibility with other office software allows performance feedback to be easily incorporated in presentations, projections, simulations, and budgets.
- The evaluation process is automated, showing performance results against preset targets.
- The MBSA does not require qualified expertise for generating reports or calculating performance results as a manual system would, and, therefore, the professional skills for generating feedback and reports are placed in the software system, not in a person.
- The virtual reproducibility of information to all employees through an electronic PMS promotes transparency and improves control and legitimacy of performance standards.
- The OLAP enables real time processing and view of current performance results that do not require physical calculation of results and generation of reports compared to a manual system.
- The MBSA enables real time drill down and roll up of performance results through the predefined perspectives, objectives, and KPIs.
- Performance measurement, evaluation, and report feedback are standardised as apposed to a manual system that lack a preset structure and standards.

In addition to the above, the outcome advantages of using software to integrate performance measurement in a central system were listed in chapter 2:

- maximises value creation consistently;
- aligns the interests of management with stakeholders;
- facilitates communication with investors;
- sets clear management priorities;
- improves decision making;
- helps to balance short-term, mid-term, and long-term trade-offs,
- encourages value-added investments;

- improves the allocation of resources;
- simplifies planning and budgeting;
- supports the management of complexities, uncertainties, and risks.

6.3.2. Weaknesses of the MBSA or electronic PMS

The weaknesses of an electronic PMS mostly involve cost or infrastructure. The limitations are listed below:

- The MBSA requires professional ICT management and support for installation and maintenance of the technical part of the system.
- Performance feedback is dependent on the basis, methods and regularity of data input. If for example a sales transaction and the relevant stock changes were to be recorded manually, the MBSA programme would require capturing the data in order to evaluate performance accordingly.
- Even though the MBSA programme is free, it is expensive to establish the required range of supportive software:
 - Windows Server 2003 (including IIS.6.0)
 - SQL Server 2000 with SP3
 - SQL Server 2000 Analysis Services with SP3
 - Windows SharePoint Services or SharePoint Portal Server 2003
 - Internet Explorer (IE) 6.0
 - Office 2003 with Office Web Components (OWC) add-in
 - Visio 2003
- Extensive orientation and training are required to engage all employees in the application of the MBSA and the performance management approach. The latter part would also be required for a manually driven Balanced Scorecard system and is not necessarily a weakness of an electronic system.

- The sustainability of the electronic PMS is dependent on the availability of support and updates for the software relevant to the business environment.
- Replacing an electronic PMS could be costly, since system requirements and integrations with the existing ICT structure may require modifications or even new rollouts.

6.4. Limitations of this study and opportunities for further research

The implementation of the MBSA is theoretical and, therefore, outcomes are not verified by factual evidence. Consequently, the MBSA is not applied with existing data, as this requires access to active data warehouse resources connected to OLAP cubes and the MBSA. Moreover, the practical testing of the MBSA versus a manual Balanced Scorecard for improved performance measurement cannot be achieved theoretically, as this would require a longitudinal case study. Even if a case study were applied, it would not have been possible to test simultaneously both a manual and electronic PMS within the same organisation. It would otherwise also be impossible to isolate internal or external variables, such as economy, markets, and politics if applied consecutively over a period of a year or more. However, the average results of simultaneous case studies (three or more) of similar organisations within the same sector and economic environment could indisputably confirm that there is an advantage. Nevertheless, the study gives a distinct representation of the process and advantages involved to establish and implement the MBSA. In addition, it provides a sound theoretical basis that an electronic PMS, for example the MBSA, is of greater advantage to an organisation than former financial performance measurement or manual based systems.

It may appear that the illustration of Consultus that is registered as a private company may not be sufficient for a public sector model. Conversely, as a small public sector serving organisation it demonstrates the resemblance because of its

unique method of capacitating the public sector as well as its distinctive economic survival methodology in the symbiotic relationship with service providers and the University. In addition, Consultus is owned by the University of Stellenbosch, which is a parastatal organisation.

6.5. Conclusion

The concluding chapter started with a summary of the preceding chapters. Subsequently it provided final comments on the benefits and shortcomings of using the Microsoft Business Scorecards Accelerator in designing a Balanced Scorecard for an organisation. The thesis concluded with the limitations of the study and opportunities for further research.

The theoretical implementation of the study cannot indisputably prove that an electronic Balanced Scorecard system is in practice superior to a manually managed system. Accurate performance results after implementing the Business Scorecard Accelerator would require a trial period of at least a year to preferably three years. It, however, emphasises the advantages of an electronic system over a manual performance management system. The former will certainly reduce errors and benefit business performance in both the public and the private sectors.

CHAPTER 7

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