

USING A BALANCED SCORECARD TO IMPROVE THE FINANCIAL PERSPECTIVE OF AN ORGANISATION

A Case Study of the Tshwane University of Technology Polokwane Campus

by

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DEDICATION

I dedicate this dissertation to my loving husband Dr. Peter Muchandigona and to our wonderful children, Tawanda and Tinaye, who were ever understanding and supportive in allowing me to explore my potential.

| Tawanda and Tinaye you can achieve whatever you set your mind to. It all starts just with a DREAM!! Do not hold back...dream, fly, and soar my babies!

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DECLARATION

I, ANA KUNDAI MUCHANDIGONA, declare that my dissertation, *Using a Balanced Scorecard to improve the financial perspective of an organisation: A case study of Tshwane University Technology Polokwane Campus*, is my own work and that all sources used and quoted have been indicted and acknowledged by means of a complete reference system. This dissertation was not previously submitted for a degree at another university.

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ABSTRACT

The current trend in business is that the more rapidly customers are able to receive the services they require; the better the organisation can perform. However, customers' needs are becoming progressively more complex due to the increased number of communication channels and ubiquitous business information. Serving today's informed customers with traditional business methods have proven to be too difficult for organisations that are too rigid to change. Determining how to support business stakeholders effectively and efficiently, ranging from clients to shareholders can seem daunting; yet it does not have to be.

The major objective of this study was to use a balanced scorecard (BSC) to improve an organisation's financial perspective. A case study of the Tshwane University of Technology (TUT) Polokwane campus in South Africa was used to inform the study. This study was motivated by the fact that, as much as the BSC is widely being used to align organisations' operations to its mission and objectives, many organisations in the developing world still use traditional financial performance measurement systems. Another motivation for the study resulted from the fact that despite the strategic positioning of the TUT Polokwane campus in Limpopo province, the campus is still failing to attract potential students and high-calibre staff.

The study modified the BSC for non-profit organisations (Kaplan & Norton, 2001) to come up with a conceptual framework that suits the TUT Polokwane campus environment. Secondary and primary data were used. Secondary data was obtained by reviewing relevant documentation that contributed to identifying key performance measures. These measures were used to develop the instrument for collecting primary data. Primary data was analysed quantitatively. The results of the study showed that many of the questionnaire items were good. Three of the six hypothesised relationships between the six constructs and the improvement of the financial perspective were fully supported, while the other three were partially supported. Relevant modifications were made to the measuring items and consequently, the BSC.

The modified BSC that was a result of this study can be used as a reference framework by universities that wish to implement it within their settings. To the management of the TUT Polokwane campus this study will serve as a standard to set the business operations congruent to the university's mission and vision. This study recommends that future research should consider using longitudinal surveys since users' perception and customer needs change as the business environment changes. The study also emphasised the need for continuous review and modification of the resultant BSC that will be introduced at the campus in order to cope with the ever-increasing changes in business and technological developments.

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LIST OF ACRONYMS

ABC	Activity-Based Costing
ABM	Activity-Based Management
BSC	Balanced score card
CASB	Canadian Accounting Standards Board
CCS	Corporate Conscience Strategy
CRM	Customer Relationship Management
CVA	Customer Value Analysis
EVA	Economic Value Added
EXCO	Executive Committee
GAAP	Generally Accepted Accounting Principles
HR	The human resource
ICS	Intellectual Capital Strategy
IFP	Improved Financial Perspective
IoDSA	Institute of Directors in Southern Africa
PPS	Practice and Process Strategy
RCS	Relationships and Culture Strategy
ROA	Return on Assets
ROAA	Return on Average Assets
ROE	Return on Equity
ROI	Return on Investments
SA	South Africa
SOLGM	Society for Local Government Managers
SPSS	Statistical Package for Social Scientists
SS	Stakeholder Strategy
TQM	Total Quality Management
TUT	Tshwane University of Technology
VIF	Variance Inflation Factor
VCS	Value Creation Strategy

GLOSSARY OF KEY TERMS

Balanced scorecard	An analytical framework used for strategic planning and management within an organisation.
Bivariate analysis	This is the simultaneous analysis of two variables (attributes). It explores the concept of relationship between two variables, whether there is an association, the strength of this association, or whether there are differences between two variables and the significance of these differences.
Client	In reference to this study, the term refers to the students at the TUT Polokwane Campus.
Construct	The abstract idea, underlying theme, or subject matter that one wishes to measure using survey questions.
Correlation	A correlation is a statistical measurement of the relationship, either positive or negative, between two variables.
Cross- sectional survey	A study where data is collected once. Cross-sectional studies are designed to look at a variable at a particular point in time.
Demographics	The characteristics of human populations and population segments, especially when used to identify consumer markets: The demographics of the Southwest indicate a growing population of older consumers.
Hypothesis	Is a specific statement of prediction. It describes in concrete

(rather than theoretical) terms what one expects will happen in the study.

Multi-collinearity	Is a statistical phenomenon in which two or more predictor variables in a multiple regression model are highly correlated.
Regression analysis	Regression analysis is a statistical tool for the investigation of relationships between variables. It is any statistical method where the mean of one or more random variables is predicted based on other measured random variables.
Stakeholder	Stakeholders are any interested individuals or organisations that have an input and are interested in a resultant competent graduate.
Strategy	Is a plan of action designed to achieve a specific goal.
Triple bottom reporting	Financial reporting involving the economic, social, and environmental aspects.
Univariate analysis	Univariate analysis, looking at single variables, is typically the first procedure one does when examining data being used for the first time.
Variance inflation factor	A measure of the amount of multi-collinearity in a set of multiple regression variables. The presence of multi-collinearity within the set of independent variables can cause a number of problems in the understanding the significance of individual independent variables in the regression model

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CHAPTER 1: INTRODUCTION

1.1 Background

Every organisation devises means to employ better standards to keep it abreast of its competitors. Organisations worldwide, including universities, are operating in a challenging global environment that has never existed before. The internet and the ubiquity of technology have caused increased competition for clients. Each organisation endeavours to employ improved methods of survival by distinguishing its services in its domain industry in order to attract and retain customers. Universities, on the other hand, have merged while others instituted regional campuses to gain a higher market share. However, dramatic changes in demographic structures and increased students enrolments, have presented numerous unanticipated challenges. Such challenges encompass complexities in managing students' data, duplication of information, inconsistencies in applying university practices, change in strategic plans, and increased staff workload. These challenges result in poor service delivery. Financial redress is required to address the concerns about poor service delivery.

Traditionally, universities have been known for teaching and research, and their successes were entirely dependent on the lecturers' ability to do so. However, today's global competition creates expectations for universities whereby they are expected to contribute to the development of their nations and at the same time produce high calibre students that are compatible with business needs (Thomas, 2011: 184). This implies that quality service provision at universities is no longer aimed at students only but to the whole market spectrum. It is through the provision of quality that universities will achieve excellence. This will help them to attract, retain, realise, and enhance their long-term stakeholders' value opportunities, obtain improved cost structures, and expand their revenue opportunities (Thomas, 2011: 187).

It is important to note that if universities are to achieve a sound financial perspective, it should establish better plans and strategies. However, such strategic targets could

only be achieved if the university's academic activities are congruent with its financial and budgetary plans. Yet, despite that in many circumstances, the universities' activities and strategic plans may be inspirational; they lack adequate examination and alignment to financial aspects. Therefore, systematic measurement, evaluation, and control of the financial aspects in respect of the vision and objectives of a university are required. This will further agree with demands from stakeholders and the business environment.

1.2 Motivation and Purpose of the Study

Many universities in South Africa (SA) are in a state of post-merger. The Tshwane University of Technology (TUT) is one of them. TUT was born after the merger of three Technikons, namely, Technikon North-West, Technikon Pretoria, and Technikon Gauteng. The merger of universities was an attempt to reshape the demography of higher education in 1997. After its merger, TUT found it with nine campuses distributed in three provinces of SA, with Gauteng alone have six campuses, and others in Mpumalanga and Limpopo. The merged institutions all previously had their independent administrative and financial structures. The merging of these autonomous institutions created complexities in management, administration, and differences in organisational culture. These differences created waves of insecurity that resulted in endless upheavals. These disruptions not only damaged the university's reputation, but also negatively affected its service delivery.

Another challenge is that TUT's major administration and financial management tasks remained centralised at the Pretoria West campus. This placed the distance campuses, like Polokwane, at a great disadvantage. Services are delayed as in many instances the distant campuses had to wait for decisions to be made in Pretoria. This dilemma has put the position of distance campuses in balance to the extent that many staff members have doubted the survival of these campuses. This state of uncertainty saw many staff members, both academic and non-academic, resigning while others looked for part-time employment. In turn, this affected the retention of students, as many were not sure of the future of the university in which they were enrolled. At the same time, these campuses continued to be constrained by the lack

of attractive amenities and infrastructure. This has contributed to the disapproval of university by current and prospective students. In addition, the lack of adequate competitive financial support from the university to the students has also further compounded TUT's problems.

Researchers (i.e. Thomas, 2011: 186; Kotler, 2003: 351) pointed out that, "Poor service delivery is a key factor that influences customers' retention. When customers receive or perceive an organisation as incompetent or providing less admirable services, it will make them switch from one organisation to another." This has become a reality at TUT, which has failed to attract and retain high calibre students. Students with good entry requirements opt to enrol at other universities. Furthermore, the few who enrol at TUT distance campuses rarely complete their studies at the original learning site. It is also common to find that even those who do finish the studies at the campus where they registered do so beyond the minimum required period of three years.

The study explored the use of a balanced scorecard (BSC) and developed a framework that could be used to enhance TUT's Polokwane campus financial perspective. This framework is expected to stimulate better service delivery and excellence at the campus. If used effectively, this framework will help to create excellence in service delivery, which is a prerequisite for stakeholder attraction and retention.

1.2.1 The Financial Measurement Systems

The TUT Polokwane campus, like many other big organisations, had an accounting system that generated huge volumes of data but experienced problems of correctly interpreting it. Tuomela (2005:295) warned that, traditional accounting measurements, if not improved, could lead to undesired management decisions. He explained that organisations need financial performance measurement systems to provide tools and metrics to understand the business financial perspective. These systems could be used in making meaningful business decisions such as understanding the business situation, determining and establishing the profits yielded

by the organisation, and having a better pricing and effective budgeting system. By using these systems, costing and accounting, capital purchasing, strategic planning could be enhanced and provide better methods to award incentives and compensations where they are deserved in the organisation.

Humphreys and Trotman (2011: 82) argued that summative financial measures of the accounting system might sometimes lack congruence between the decisions and actions. Amidst these imbalances, some organisations resort to strategic performance measurement systems. In addition, Cheng and Humphreys (2012: 901) and Tuomela (2005: 294) believed that using such systems might lead to inappropriate performance levels, which lead to unwanted performance targets caused by decreased motivation. They further argued that this could cause unbalanced guesstimates in the trade-offs between non-financial measures. It is important to note that as much as strategic performance measurement systems could balance financial and non-financial measures, non-financial measures are basic attributes of financial performance (Kaplan & Norton, 1996: 80). The dilemma here is the elucidation of the impact of the given non-financial measures to financial outcomes. A problem of this nature could cause contradiction between the results of financial and non-financial measures.

Tuomela (2005: 300) explained that, performance measures are obtained from the critical success factors of aimed strategy. Therefore, financial measures are intended to establish whether the targeted strategy could help achieve the desired financial goals. When the desired goals are achieved, then the financial measures could be used to predict the various strategic uncertainties and their remedies. Further still, they could be used to improve the thrust for stakeholders' value and to counterbalance the anticipated financial risks. On the other hand, the non-financial measures could provide a variety of values and aid to fortify the numerous strategic boundaries.

Despite these developments, many organisations still use the traditional financial measurement systems. In South Africa for instance, organisations subscribe to the Institute of Directors in Southern Africa (IoDSA). Their membership enforces them to align their reporting standards to the triple bottom line reporting approach and to use

systematic accounting principles in their financial statements (IoDSA, 2009: 2). Being a statutory requirement, many organisations use it as a measure of performance. However, constraining performance measures with financial achievements results in a negative perception by the employees due to aggregated pressure to achieve higher results. As a consequence, managers have fewer options apart from misrepresenting their financial information to portray a good financial standing of their organisation. Such unfaithfulness and pressure from competitors was a major cause for organisations' financial disgrace that in the worst cases has led to the collapse of many enterprises.

Christian & Beiman (2007: 20) suggested that it is essential for organisations to measure both financial and non-financial indicators to establish the overall economic value added (EVA). They argued that this is a basis for an organisation to achieve a respectable revenue growth and profitability. This same call was echoed by Kaplan and Norton (2008: 1- 18) who argued that, if these financial indicators are constrained, undesirable outcomes may be experienced. These outcomes may encompass the failure to predict the future performance of an organisation, an inability to explain the long term approaches to be explored, poor transformation of economies, lack of integrated contemporary business systems, and distortion of product costing.

1.2.2 The Balanced Scorecard Methodology

The BSC is an analytical framework used for strategic planning and management within an organisation. It ensures congruency between business activities and the organisation's objectives, vision and strategic goals (Kaplan & Norton, 2008: 8; Vermaak & Cronjé, 2001: 301). The BSC methodology was a result of answering the general outcry of poor accounting systems that yielded accounting figures that could not emphasise the elements necessary for the forecasting of good or poor future financial results (Cheng & Humphreys, 2012: 904). Gouws *et al.* (2006) put it that BSC provides a lens through which management evaluates the organisation's performance through the comparison of the strategic non-financial performance with

the traditional financial metrics. They further noted that, the BSC is a key to realising the organisation's internal business process, learning, and growth.

Researchers (i.e. Kaplan & Norton, 1996: 68; Humphreys & Trotman, 2011: 84) noted that, when the BSC is effectively used, it should be able to align individual department goals to that of the overall organisational strategy, mission and vision. In relation to this study, this implies that, effectively using the appropriate BSC will help the TUT Polokwane campus objectives to be congruent with the overall TUT strategies. An appropriate framework for an organisation is needed for success to prevail. This is because the lack of appropriate framework could lead to faulty forecasts and unnecessary dysfunctional organisational attitudes (Humphreys & Trotman, 2011: 86).

Therefore, a relevant BSC framework is needed to put in place desirable instruments that could be used for checks and balances to improve the organisation's performance. Kaplan and Norton, (2008:1-18) also argued that, when using BSCs, management could effectively identify what is required for effective management and the measures to be used to quantify the output. They suggested that such outputs could include customers, suppliers, employees, processes, technology, and innovation. Further still they stated that by using the BSC in a holistic manner, it ensures that all business dimensions involved in the evaluation process are analysed and that financial success is guaranteed.

1.3 Problem Statement

The poor retention of high calibre students and staff who are the key stakeholders in the university created serious financial implications. This included a high record of poor tuition fees payments as many remained in a state of uncertainty on the future of the university. On the other hand, the lack of permanent lecturing staff also caused insignificant contribution from subsidy-generating or commercialised research funding to boost the campus's financial standing. The lack of internally generated funds led to the reduction of the campus' funding allocation from its head office. Such a reduction in funds has negatively affected the overall service delivery and resource allocation.

The identified gap is customer dissatisfaction due to poor service delivery at the TUT Polokwane campus that needs financial redress.

1.4 Research Objectives

In order to find a solution to the research problem identified by this study, the following research objectives were set.

1.4.1 Primary Research Objectives

The primary research objective of this study was to use the BSC to improve the financial perspective or financial affairs of an organisation taking a case study of the TUT Polokwane campus.

1.4.2 Specific Research Objectives

The specific objectives guided the flow of the research. The specific objectives provided a step-by-step execution of the research activities and were followed to achieve the desired major goal.

The specific objectives of this study were:

1. To establish the gaps that exist between the previous Technikons in South Africa and the TUT Polokwane campus in terms of customer satisfaction
2. To modify the BSC for a non-profit making organisation and come up with one that could be used to readdress the TUT financial perspective.

1.5 Scope and Coverage of Research

This study was informed by a case study of the TUT Polokwane campus. TUT has more than eight other campuses, but the scope of this study was only concentrated on the Polokwane campus. However, the framework that was developed was generic enough to be used by other campuses and other universities of technology in

general. During the collection of data for this study, both the stakeholders and the employees of the university were considered in order to have a balanced image of the results obtained. Though the research and primary data collection was focused on Polokwane campus, secondary data were obtained across the board. Documentation, reports, and literature of other campuses and universities of technologies were used to enrich the research.

1.6 Importance and Benefits of the Study

This study proposed a development framework to improve the financial perspective of the TUT Polokwane campus in order to improve its service delivery. The importance of this study signified that if the financial perspective is ignored, all the activities within the university including the academic activities are at great risk. This is because financial control, management, and evaluation are pillars of all activities within an organisation. Negash (2008: 17) stated, "...lack of financial decentralisation leads to challenges... in case an organisation wants to introduce financial devolution". He asserted that this could be caused by resistance from those units that are already financially active. Therefore, it needs a sound financial plan in place.

From the available literature, this study found that no work had been completed or published to help the university administration in financial decision-making. Many of the studies reviewed had little or no concept of leveraging the BSC as a strategy to help universities attract, satisfy, and retain their clients. Yet the BSC is paramount for the universities' monitoring and evaluating their financial perspectives to achieve their strategic objectives.

1.7 Research Delimitations

This study is formed by a case study of the TUT Polokwane campus. The delimitations of the research process encompass the following:

1.7.1 Unit of Analysis

The unit of analysis for the study were stakeholders that included staff in different departments of finance and accounting, human resource and members of the executive committee. The secondary data used for analysis was collected from different campuses and related universities of technology. However, the primary data and the overall analysis depended on the TUT Polokwane campus only.

1.7.2 Information Availability and Sampling Methods

In most cases data concerning the financial status of an organisation is considered confidential. Therefore, it was not easy to obtain the important data needed, especially from the staff of the finance and accounting departments. A judgemental sampling of the participants for primary data collection was entirely used.

1.7.3 Collection of Data

This study, like many other academic research studies, was constrained by the time factor. The data for the study was collected in one single point of time. Cross-sectional study was used during data collection instead of the longitudinal survey approach. Due to this approach to data collection, this study acknowledges that there could have been changes in the perception of the participants as time changed. Such changes were not accounted for.

1.8 Dissertations Outline and Disposition

This chapter discusses the background of this study, the research problem, the questions, and the objectives that determine the path the research. Chapter 1 further illustrates how the suggested research questions could be answered in order to solve the identified research problem. The chapter details the background of the financial measurement systems and the BSC methodology. Lastly, this chapter discusses the research delimitations, giving reasons why such delimitations were experienced.

Chapter 2 discusses the literature of performance and financial measurement systems in relation to an organisation. The reviewed literature indicates that accounting measures that are not improved with suitable measurement tools, will lead to undesirable decision making within an organisation.

Chapter 3 presents the discussion about the BSC methodology. In this chapter, the steps and procedures of how to use the BSC to enhance the financial perspective of an organisation is detailed. The literature reviewed in both chapters two and three provided the formulation of the framework to be used in enhancing the financial perspective of an organisation.

Chapter 4 discusses the research design and methodology. In this chapter, the methods of collecting both the primary and secondary data used in the study are discussed. This chapter also illustrates how the collected data both qualitatively and quantitatively was analysed to come up with the relevant framework.

Chapter 5 presents the results of the study. This chapter gives the analysis of the research findings for both the qualitative and quantitative results. In the analysis of the results, both the descriptive and inferential statistics were used. The analysis forms the basis of the interpretations of the research findings and their implications to practice.

Chapter 6 presents the discussion of the obtained results. During the discussion in this chapter, the meaning and implication of the obtained results in relation to the suggested hypotheses are detailed. This chapter further gives an account of the comparison of the obtained results and the actual occurrences in both the literature and practice. The limitations cited in this chapter acted as the basis for the recommendations of this research and the suggested direction for future studies. The chapter further provides research evaluation and a conclusion. This chapter evaluates whether the suggested objectives were achieved. By achieving these objectives this chapter gives the contribution of this research in the field of financial management. The research disposition followed is as illustrated in Figure 1.1 below.

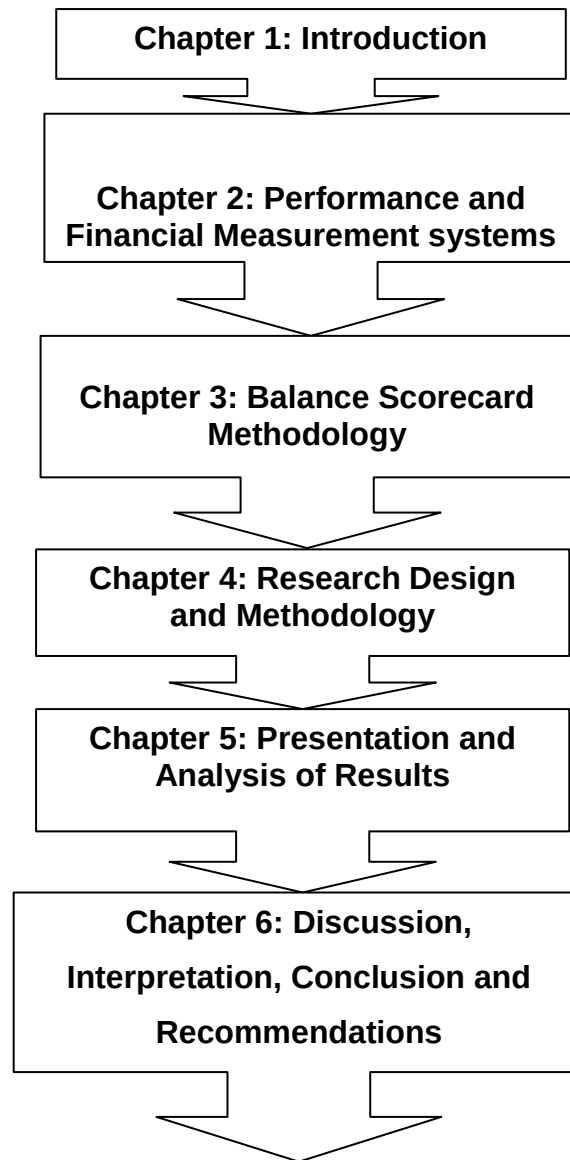


Figure 1.1 Research Disposition

CHAPTER 2: PERFORMANCE AND FINANCIAL MEASUREMENT SYSTEMS

To achieve sustainable business success in the demanding world marketplace, a company must...use relevant performance measures (UK Government White Paper on Competitiveness quoting RSA Tomorrow's Company Inquiry Report).

2.1 Introduction

Worldwide organisations strive to devise better means by which they can perform their financial measurements. Many organisations need managers who compile better strategies that help them to achieve this objective. Ferrell and Ferrell (2009: 257-270) stated that “Having strategic, performance measurement-based management systems enable an organisation to congruent its business activities to its strategy, vision and mission.” They asserted that effectively doing this would enable an organisation to efficiently monitor and control its performance to achieve its desired goals over time.

In support, Nagar & Rajan (2001: 496) explained that performance measures should be a key to identify the what, how, why and the when of measures. They suggested that this could include the population to be measured, the method to be used when measuring, the source of data that needs to be measured and the period needed for measurement. As it was noted by Ferrell and Ferrell (2009: 264) and Nagar & Rajan (2001: 496) when measuring each individual measure, there should be a purpose and an aim of what is to be achieved. They suggested that good measures should be easily understood and controllable by minimising the outside influences and interferences. They further asserted that such a measure should also be, accurate, useful, timely, cost-effective, motivating and must have traceable reference.

Generally, performance measures should embrace both the quantitative and or qualitative characteristics and should be able to define performance. Therefore, effective performance measures should provide metrics that could enable an organisation to monitor and control progress that is targeting the achievement of set goals. It should also define critical success factors that an organisation should do to enhance its performance and achieve its customers' satisfaction (Neely *et al.*, 2000: 1121). This implies that having effective performance measurement in place is essential in assessing the organisation's progress to achieve the predetermined performance goals.

Researchers (i.e. Neely *et al.*, 2000; Christian & Beiman, 2007: 21) argued that for organisations to grow and compete in the current economic climate, they need to get the financial measure right. They emphasised that the lack of, financial management or planning was a major cause for many business failures. They further highlighted financial management should be the baseline for any organisation that needs prosperity. It follows that organisations need to review their financial performance periodically to have a proper assessment of their business goals. In the reviewing process, management should ensure that there is congruence between what is done, and the organisation's overall mission and strategy.

Organisations should also put in place checks and balances to evaluate its performance periodically. These checks and balances should be relevant and management should from time to time ask itself questions that could guarantee this alignment. Such questions could include though not limited to: is the organisation's mission and strategic plan well-articulated? Do performed activities contribute to the organisation's mission success? Are the measures put in place related to this mission and goals as illustrated in the strategic plan? Are the set measures appropriate and do they report to individuals at different levels of the organisation and to external stakeholders? Is there any influence from the performance measures to the resource allocation and decision-making? Does the relationship exist between organisational performance and individual or group incentives that are equivalent to the organisational performance?

Answering these questions will keep an organisation abreast with the growing changes in the business arena and level it with its competitors. Ferrell and Ferrell (2009) emphasised the need of understanding the importance of measuring an organisation's performance. They put it that such measurement improves the performance of an organisation to provide an effective and efficient service delivery to its stakeholders.

2.2 Business Performance Measurement - State-of-the-Art

There are several different definitions of performance measures, with the terms performance measures and measurements being used synonymously. For the purpose of this research, the following definitions adapted from Litman *et al.* (1999: 5-6) for performance measure and measurement, performance objective and goal, and performance management are adopted.

Performance measure is a quantitative or qualitative attribute of performance. In this study this will refer to the satisfactions of stakeholders, that is, both students and lecturers, of the services being rendered to them by the university. Such measures could be summaries of definite characteristics of the system. Students' prompt and punctual payment of their tuition would be a result of satisfaction that the university is giving them the quality of education they deserved.

Performance measurement is the process of establishing the achievement of the predetermined goals. These goals may be wholly achieved or could be an incremental process that leads to the achievement of the goal. Such a process could also determine the effectiveness in transforming the inputs into outputs as well as the final delivery of the service. In this study, this could imply how Polokwane campus' objectives best meet and correlate with the overall TUT objectives. It could also determine what contribution Polokwane makes to TUT's achievement of its mission and goals. From this understanding, it is evident that the major aim of measuring performance is not only to know how a business is performing, but also to enable it to perform better. If implemented effectively, it should advance the performance of an

organisation so that it may better serve its stakeholders (Christian & Beiman, 2007: 24).

Performance objective could be taken as the major target or the critical success factors that need to be achieved in order to achieve the organisation's mission, vision, and strategy. Being a critical success factor, if an organisation fails to meet it, it could suffer or experience reduced customer's satisfaction and retention. This could also lead to decreased system's performance and staff dissatisfaction that causes poor retention of skilled personnel. As a result, there will be poor and ineffective financial management, which brings poor service delivery.

Performance goal is a target level of activity expressed as a tangible measure that acts as a baseline for performance. It is on this baseline that actual achievement can be compared.

Performance management refers to the effective use of performance measurement information to enlist optimistic change within an organisation. Change could be in terms of the organisational culture as well as systems and processes. Management of performance activities could also entail helping to set the desired performance goals including the allocation and prioritisation of resources. It would also involve the helping of managers in setting of effective strategies that could lead to the attainment of the set goals through the dissemination of information and sharing the results of performance with the aim of achieving those goals.

2.2.1 Performance Measures Driving Factors

According to Kaplan and Norton, (1996: 77) performance measurement may be considered as the use of statistical analysis to determine progress toward the achievement of predetermined organisational objectives. They added that development of effective strategic performance measurement systems is underpinned by the vision and mission of the organisation. Tuomela (2005: 297) suggested that, performance measurement systems are diagnostic controls of an organisation. With such diagnostic controls in place, an organisation can measure its outputs as compared to expected outcome. Hence, performance measurement

systems should serve as collections of financial and or non-financial performance indicators.

Tuomela (2005: 318) further argued that managers should from time to time effectively evaluate their performance and that of their subordinates. The results of such measures could then serve as the input for determination of resource allocation, coordination, business evaluation, and early warning identification. It can be deduced that, performance measurement is an ongoing process of establishing how well an organisation's programme is conducted and its relevance. Being an ongoing process, it needs continuous data collection that is used to measure the attainment of the pre-determined objectives. It is therefore a measure put in place to ensure that the set objectives are achieved. Therefore, performance indicators become core factors that need to be addressed to achieve better outputs.

For sustainability and to keep abreast with the ever growing customers' needs, organizations need from time to time to check its performance (Sustainability, 2001:2). This also helps to promote a wider and more honest organizational environmental reporting that includes cataloguing and analysing sectoral, tracking and evaluating trends. The performance over reporting period assesses aspects of operational performance and triple bottom line impacts, as well as targets for improvement (Sustainability, 2001:3).

The sustainability report further revealed that numerous different approaches could be used to measure, monitor, and assess the progress companies are making towards sustainability by checking its performance. These may include though not limited to; context and commitments, management quality, economic performance, social and ethical performance, environmental performance and multi-dimensional performance (Sustainability, 2001:6). However, for these methods to add meaningful value, they need to integrate sustainability performance, brand value, and competitiveness. Hence, systematic sustainable performance measurements are needed in order for organizations to achieve their desired goals.

Performance measures are driven by three major factors that include; profitability, size of the business, and growth of the business over time. Subsequently, financial

performance measures that assess these key factors are paramount to the overall monitoring of the financial performance and progress. Such, financial performance measures should check whether the business is profitable and suggest operating performance and financial structure that need to be changed to improve profitability. Similarly, they should also check the size of the business to achieve an acceptable level of income. On the same note, they should recommend effective operating performance, financing, and/or size that need to be improved in order to achieve a reasonable capacity needed to generate income for the business. Finally, they should also check whether the business is capable of growing in order to remain within a competitive environment over a long-term. At the same time, they should also recommend the needed sustainable rate of growth for this business (Neely *et al.*, 2000; Groppelli *et al.*, 2000; Susan *et al.*, 2008).

Several performance measures exist to assess an organisation's financial perspective. Since performance measures of an organisation may vary from one year to another due to unexpected situations, computation of these measures is necessary to know the organisation's position (Neely *et al.*, 2000: 1122). Some of these measures include the following:

Return on Equity (ROE) measures an organisation's profitability. It computes the amount of profit generated from shareholders. ROE measures the organisation's efficiency at generating profits and it demonstrates how well a company uses investment funds to generate earnings growth (Groppelli *et al.*, 2000: 444).

Return on Investments (ROI) has been traditionally used as a financial measure of the organisation's profitability. It is used to ascertain how much profit an organisation generates from its capital investment and other related sources from investors. It tests whether profits were achieved or not achieved (Groppelli *et al.*, 2000: 445). The aim would be to realise high ROI as it signifies a good investment.

Return on Assets (ROA) is normally used as an indicator regarding profitability of an organisation in relation to its total assets. It demonstrates the capital intensity and it mostly depends on the nature and structure of an organisation. ROA is presumably the single best overall measure of operating performance. ROA balances the results

of operations in respect of the resources used to produce them. It reflects the activities and tasks performed during the business operation. It is from this indicative nature that appropriate corrective action could be determined (Susan *et al.*, 2008).

2.2.2 Attributes of Good Performance Measures

In any organisation, performance measures are essential components of the general performance management framework. Performance measures are the facets of the business framework that the stakeholders will assimilate to (Halachmi, 2005). Good performance measures should possess the following attributes that are necessary for their effects to be realised:

Relevance - A good performance measure should be closely related to both the level of service it is linked to while addressing matters that affect the intended audience. For example, to achieve students' satisfaction about their studies, the university should employ highly skilled and experienced academic personnel. However, much as this may be desirable it could be difficult to achieve. Therefore, this could call for strict re-dress of all relevant factors that are needed for this goal to be attained.

Realism - Performance measures are regarded as checks and balances of the organisation's objectives that should be achievable. If targets are exaggerated, they will not only be difficult to achieve but could also frustrate the employees because of negative perceptions.

Comparability - The methodologies used must be consistent and produce outcomes that are comparable over a given period. If any difference in the outcome is registered, it should not be a result of the poor methods, but it should rather be attributed to other indicators.

Verifiability - Produced results should be replicable, assuming that the same data sets and conventions are being used. When consistent methods are used, the expected outcomes should be applicable to the different scenarios within an organisation.

Timeliness - Performance measures, like any estimate measurement, should be done within a given period. Goals and objectives set should have milestones. For instance, in the university perspective planning should indicate when students will have paid their tuition fees, when research outcomes could be published and when funding should be applied. Finance budgets should also indicate which account lines should be exhausted and when any transfers should be based on the baseline.

Neutrality - It is important that the measures used are impartial and avoid systematic biases. When performance measures are ruined by biasness, they do not only cause unhappiness among the organisation's staff but also cause poor results.

Robustness - Performance measure sources should be clearly specified as the source of the information. There should be validity of the measure. All assumptions that are made during the measure should be clearly explained and documented for further reference. All aspects of the measure should be clear, not only to the organisation, but also to all stakeholders.

Avoidance of perverse incentives - As much as incentives and rewards are encouraged for effective performance, the performance measures should avoid situations of encouraging elusive behaviour. They should avoid situations that cause managers and their subordinates to think that targets can only be met when incentives are given.

2.2.3 Performance Measurements as a Mechanism for Service Delivery

The most effective way to dramatically improve service delivery is to obtain accurate measures of performance. "What gets measured gets done" (Justine Morgan, 2010)

Organisations often spend much time and resources doing continuous planning which end up slowing them down. According to Morgan (2010), organisations should set performance measures for a particular unit and once results are achieved, they could then expand to others. It is important for an organisation to identify key performance indicators that could help it obtain support. If this is achieved, then it will be better positioned to start. Morgan stated that there is a serious need for monitoring

and evaluation in many public and private sectors. Once monitoring has been completed, effective service delivery is guaranteed. Morgan (2010) asserted that campaigns and advertisements used by organisations are all useless if they are not measurable and visible and will never yield results.

It is important that the performance management and evaluation system used by an organisation should have articulated delivery priorities and objectives that are tangible and measurable. They should be used to assess structured and unstructured data. Monitoring and evaluation within organisations will only be effective if there are outcome perceptions. However, this will only be achieved if key performance indicators are addressed. However, good measures are always implemented amidst many challenges. This is an observation supported by Wake & Dewar, (2002) who warned that performance measurements meet many challenges, which organisational managers ought to consider. These include:

- **Methodologically:** Usually the link between inputs and outputs could be relatively easy to measure. However, the link between inputs and outcomes is more complex. In many organisations, it will be difficult to separate the impact caused by the inputs from the many other factors that influence the outcomes.
- **Financially:** Achieving an effective performance measurement system could be expensive when expressed in terms of employees' time and the technology to be used.
- **Government:** For government-based bodies, including ministries, measuring performance could be more complex than in private sectors. Government programmes and activities may have varying levels of complexities with changing objectives.
- **Politically:** In many instances effective performance measures fail to receive support from politicians, as they could perceive it as intended sabotage from their opponents. Similarly, much political peddling in public sectors and government bodies causes misrepresentations. Therefore, effective performance measures are seen as a method to uncover irregularities in such

places that cause resistance and lack of cooperation, despite the argument that “what gets measured, gets done”, what is done in many of government bodies is often not what *should* be done (Morgan, 2010).

These challenges for effective and successful performance measurement have been identified as the major cause of disagreements within organisations (Behn, 2003). It is important for managers to ensure that performance measures are wholly embraced to be used as effective tools for promoting accountability, efficiency, and effectiveness, which are vital to effective service delivery. Neely *et al.* (2000) suggested that business views are intertwined and should be handled holistically. These views include financial performance, operational performance, stakeholders such as customers and employees, and community satisfaction. When such satisfaction is achieved, then success is said to be achieved and the service delivery is said to be effective. The performance measures will then determine whether the indicators that contribute to the levels of service are being delivered measurably. This could be determined from two major perspectives, i.e. the technical and customer service perspective. This study therefore focuses on the customer service measure by establishing how best an organisation’s customer could receive or experience the service being rendered.

Better services could be offered if organisations stop window-dressing by merely producing impressive paperwork. It is essential that organisations should move beyond general financial statements and find better ways to deliver services effectively and efficiently. It is therefore essential to identify those factors that are crucial for the attainment of better service delivery. By doing this, organisations should also consider that levels of services that are beyond their control are mitigated to achieve a balanced ground. Kotler (2003) noted that customer satisfaction is a performance measure mainly obtained when there is better service delivery. When organisations’ customers feel satisfied and are happy, they will have a perception that their concerns have been listened to and effectively addressed. It gives them a sense of belonging and they remain loyal to the organisation. However, this satisfaction depends on many factors both influencing and moderating. Establishing these factors is the core of this research.

Finally, an organisation's success comes because it met its business objectives. An organisation's performance measurement system should include financial and non-financial measures. By including both types of measures, it will achieve a holistic view of its performance. Neely *et al.* (2000) noted that the current business dynamic environment, could only be met if organisations associate their performance measurement system to their strategies. This should be done in accordance to those attributes that satisfy their customers' needs, yet also control the organisation's costs. The need to achieve this has led to evolving performance measurement systems and to a wider advocating of the use of BSC (Kaplan & Norton, 1996; 2008: 1-18).

2.3 Financial Measurement Systems

Financial measures are common methods used to depict the performance of an organisation. They are influential in the comparison of year on year results but also in the setting of standards for a certain type of business across organisations. However, such comparison is normally challenged, as it could be difficult to carry it out using a single measure. This is because different businesses have different challenges and risks involved. This study aimed at establishing the generic factors that could uniformly affect financial perspectives of business in different organisations. It is assumed that, if such factors are addressed, organisations will effectively improve their service delivery.

In the current economic climate, an organisation may only excel and become a leading player if it embraces innovations. However, this could only be effective if the organisation pays a special consideration of the time factor. The turnaround time should be quick and all stakeholders should be involved for the innovation to be accepted. According to Kaplan and Norton (1996; 2008: 10), such innovations could include financial measurement systems that embrace all organisations objectives in a more holistic view. For this, they suggested the use of the BSC. From the financial perspective, such critical factors should be those required to determine the sustainable growth rate as well as the generation and retention of earnings. This

implies that, organisations with a higher income-generating capacity and a larger income reinvestment achieve a higher sustainable growth rate (Neely *et al.*, 2000).

Older financial measurements proved insufficient in providing satisfactory control over long-term strategic development and competitive strategies (Tuomela, 2005: 295). Hence, organisations should appreciate the use of financial and non-financial indicators that measure the achievement of financial objectives and performance. This is because value creation is an aggregation of all attributes of business (Tuomela, 2005: 296). Value could only be achieved when non-financial indicators of business are also considered. There should be a paradigm shift from focusing on only financial related metrics such as generated profits, return on investment, gross margin, and revenue growth. Financial indicators are outcomes, not drivers, of performance. Therefore, actual drivers for financial performance should be included, namely process efficiency; leadership effectiveness; human resource development; product and service innovation; stakeholder retention and growth and protection of the organisation's reputation.

The Society for Local Government Managers (SOLGM, 2007) argued that, establishing effective financial measures is paramount for achieving the basic level of financial success within an organisation. Factors such as financial performance evaluation should be put in place and should entails a set of benchmark measures to examine the financial performance of the organisation as well as comprise of the economic based measurements within an organisation. SOLGM further explained that capital budgeting that involves the procedural evaluation of how to invest in long-term assets within an organisation should be part of the financial measures that are administered, as well as cash flow management. At the same time working-capital management should also be considered as it provides strategies for directing the financing of the organisational assets. Risk management should also be considered essential as it identifies potential risks, measures the financial impact on the business, and implements those needed procedures for risk mitigation.

2.3.1 *Financial Measurement Frameworks*

The financial measurement framework helps in monitoring and controlling the measurements of an organisation's financial perspective over a given period of time (CASB, 2006). Like any other framework, its major role is to strengthen the known strategies and approaches for effective support of the financial reform of an organisation. IoDSA (2009: 5, 15) suggested that a measurement framework should establish high-standard indicators, which the organisation should use as a baseline in performance monitoring and control. It is based on these standards that reporting within an organisation should be made. When an organisation has an effective measurement framework, the policies and developmental objectives will then be met and this will help such an organisation to improve on service delivery.

Christian and Beiman (2007: 21) argued that organisations should consider both its financial and non-financial measures if it is to excel. In this case, the financial measurement framework should ensure that critical factors to success are well addressed and effectively used. These could encompass effectual controls of the budget totals and management of financial risks that see an organisation maintaining financial discipline, planning and executing the organisation's budgets in accordance with its precedence, and therefore promoting the implementation of those activities that meet the business objectives and manage the budget resources with an aim of improving service delivery.

From this perspective, the financial measurement framework should ensure that non-financial measures are taken into account. Indicators would be improvement of financial literacy and management, which aim at building capacity within an organisation to manage the finances effectively. Organisations' stakeholders should be equipped with knowledge that could contribute to the growth of their developmental and intellectual abilities. This will reinforce their learning capabilities and empower them to control the financial and non-financial perspectives within the organisation. Secondly, organisations should build and maintain sustainable jobs that ensure employees' sense of work security and are capable of reaching their career goals.. In this study, this should apply to both lecturers and students who should always feel secure at the TUT Polokwane campus and have their future secured. The

implication of this is that when lecturers are sure of their future, they will engage themselves in income-generating research that will boost the university's external income. In addition to this, students will have no objection or second thought when paying their tuition fees. If this is done, the university will be in a good position to generate savings and acquire assets.

2.4 Limitations of Financial Measurement Systems

Current trends in the global market have caused a rapid shift in the way organisations conduct business. The advent of the internet and technological development has opened gates to global economies, thereby increasing challenges to organisations. Such changes not only put customers at the centre of interest, but also causing serious changes in the way organisations operate. Porter (2008) suggested that organisations should not only focus on the macro environment but also on integrating the micro and the macro. By doing this, organisations will have a broader perspective of their level of analysis that will include the micro-environment-players such as the suppliers, customers, and competitors. As a result, such a shift will require an organisation to re-assess its business targets, improve its corporate planning, and set achievable and implementable objectives.

These business evolutions and advent of new competitive trends such as increased customisation, need for flexibility, Just-in-Time response to customers' queries, and total quality management, imply that traditional financial measurement systems are becoming inadequate. These observations demonstrate that business is increasingly becoming more dynamic. Therefore, the financial measuring tools cannot remain static if they are to address both the external and internal changes. Kaplan and Norton (2001) suggested that performance measurements relying on financial or accounting-based measures alone, could fail to portray the actual picture of the organisation's performance. They argued that financial measures suffer the drawbacks of backward looking, and could not be used accurately in a dynamic environment or in business forecasting. Consequently, this will lead to an oversight of the performance problem definition, lack of control, timely counteractive actions, inadequate cross-functional decision-making, and poor focus on strategic issues.

Many organisations, including universities are structured in such way that they allow departmental independence. Therefore, most of their financial or account-based reporting systems are designed in this dimension, as each department has its own problems, depending on the nature of the tasks they work on. In turn, this will cause unfavourable variances in the reporting systems. This is in agreement with what researchers (i.e. Kaplan & Norton, 2008: 1-18; Soltani & Wilkinson, 2010) noted; that managers will desire to bridge this impairment between the root causes and the reporting structure by misrepresenting the financial perspectives. This dysfunctional attempt to display an image of effectiveness and competitiveness, not only embarrassed organisations when they were externally audited, but also portrayed the weakness of the financial measurement systems.

In the wake of these shortfalls, Tuomela (2005:298) suggested that the link between the different measurement perspectives and the cause-and-effect relationship paths might not easily be measured or established. He argued that indistinctness might exist between various non-financial measures and the connection between non-financial and financial measures. He further suggested that such challenges might only be effectively addressed by using a balanced performance measurement system. Kaplan and Norton (2008: 16) added that latent cause-and-effect relationships and the significance of different measures could easily be addressed by using a BSC.

CHAPTER 3: THE BALANCED SCORECARD METHODOLOGY

If stakeholders can agree on a course of action and become engaged in activities that they see as purposeful and productive, they are likely to invest considerable time and energy in research activities, developing a sense of ownership that maximizes the likelihood of success. (Stringer, 1999)

Organisations, regardless of whether they are profit or service oriented, all strive to succeed in their endeavours. However, this success can only be accomplished if organisations realise their objectives. In many cases, attaining the aimed goal requires systematic and well-planned strategies that organisations have to implement. These planned strategies need to be frequently measured to ensure that their results are congruent with desired objectives (Vermaak & Cronjé, 2001: 301). Therefore, organisations need to establish a mechanism that could assist in measuring and evaluating their business process. A tool that could be used effectively is the BSC.

The BSC is an analytical framework that is used widely for strategic planning and management within an organisation to ensure congruence between business activities and the organisation's objectives, vision and strategic goals (Kaplan & Norton, 1996, 2008: 1-18; Vermaak & Cronjé, 2001: 302). It serves as a lens through which organisational administrators get a balanced view of their organisation's performance by comparing the strategic non-financial performance to the traditional financial metrics. Gouws *et al.* (2006) stated that the BSC is crucial for the realisation of the organisation's internal business process, learning, and growth. An organisation's realisation of its internal business process works as a control instrument to improve its performance, thereby ensuring customers' satisfaction, which is the vital for better financial outcomes. The evolution of the BSC from a mere performance measurement framework that was traditionally known as a tool to support strategic planning and management, has seen organisational executives work according to their strategies to achieve major business goals.

With the BSC, managers do not only measure performance but are capable of identifying what should be done and measured. This has seen the BSC applied in many areas of business to achieve success. However, success may not only be attributed to checking financial measures. This is necessary but not sufficient for an organisation's success. Several measures should be improvised to help organisations invest in all its stakeholders that include, but is not limited to customers, suppliers, employees, processes, technology, and innovation. It is the holistic view of ensuring that all business dimensions are catered for to improve the overall financial perspective and success (Kassahun, 2010: 39).

Studies by Kotler (2003) supported by Gouws *et al.* (2006) have indicated that stakeholders play significant roles in the organisation's success and a lax in one stakeholder's role may negatively affect the other. This will in turn affect the financial expectation of an organisation, whether it is profit or service oriented. On the same note, Etzel *et al.*, (1997:615) put it that developing strong, long-lasting customer relationships, gives an organisation a sustainable competitive advantage, especially if the customer feels a certain level of commitment from the organisation's side. This level of commitment may be viewed as an indication that the organisation is willing to go an extra mile when problems occur. The need to observe and maintain a good customer relationship was attributed as a major source of financial success.

Vermaak and Cronjé (2001: 307) established that even in universities where annual subsidies are provided, the ratio of the finances obtained from the customers outweigh the subsidies. Their findings were supplemented by Gouws *et al.* (2006) who emphasised that organisations should motivate their employees. They argued that when employees are happy and satisfied with their jobs, their attitude and behaviour at work will create an environment conducive to the customer satisfaction happiness. This satisfaction will keep them with that organisation, and in turn, will improve the organisation financially.

Several studies have indicated that the BSC is the optimal solution to the organisational business aspirations. Ehlers and Lazenby (2004:218) emphasised that it is instrumental for continuous improvement of an organisation. This improvement is not only for the financial perspective, but also for customer relations, internal

business processes and learning, and growth. In turn, these create a favourable atmosphere for attaining the organisational goals.

3.1 Balanced Scorecard as a Tool for Financial Improvement

Kaplan & Norton (1996, 2008) and Cullen *et al.* (2003) argued that the BSC could be used as a tool to improve the financial perspective of an organisation. However, if organisations are to benefit from such a tool, they should be familiar with aspects that make their scope. IoDSA (2009: 15) also stated that organisations should have their financial reports constructed towards meeting interests of the external stakeholders. In addition to this, organisations must have their external financial reporting system consider the social obligation towards local communities, ensure that their financial reporting systems consider the environmental obligation, and have their external financial reporting systems in line with the triple bottom line reporting that namely, economic, social, and environmental. They are urged to have the financial statements prepared based on accepted accounting principles and have the financial statements verified by the appointed external auditors for external reporting. When these are followed, an organisation's success can be guaranteed.

3.2 Theoretical Foundations and Conceptual Framework

From its inception, the BSC's primary aim was to improve the organisation's management of intangible assets by integrating their measurement into an organisation's management system. After several organisations had adopted, used, and applied it to different settings, the BSC pioneer developer then extended and broadened its concept into a management tool for describing, communicating, and implementing strategy (Kaplan & Norton, 2008: 1-18). Several reviews have been made to fit the BSC framework to different settings and as a result, different frameworks were developed to suit the situation in which the BSC is being applied. However, much as many frameworks have been developed for this cause, their elements are based on the four perspectives of the original BSC that was designed

by Kaplan and Norton (1992) or modified based on generic BSC model (Kaplan & Norton, 2001).

Christian and Beiman (2007:54) developed different frameworks that could serve as generic models for the BSC. These included BSC for the developed and transitional economies, for individual state-owned enterprises and for the government shareholder. A careful study of these frameworks indicated that the major aim was to enhance an organisation and have a realisation of profitability (measured by residual income). It should consider market share, productivity, product leadership, public responsibility (legal and ethical behaviour, and responsibility to stakeholders including shareholders, vendors, dealers, distributors, and communities), personnel development, employee attitudes, and a balance between short-range and long-range objectives (Humphreys & Trotman, 2011: 81-98).

Based on this perspective, several studies have integrated the BSC into non-profit making organisations and institutions of higher learning. Kaplan and Norton (2001) noted that despite many non-profit organisations adopting the BSC, they tended to structure it differently with the mission as the top perspective, followed by the customer perspective, the internal process perspective, the learning and growth perspective, and finally the financial perspective, but that the concept remains the same. Therefore, the four major perspectives of the BSC may be adjusted depending on the organisation's needs, culture, and structure.

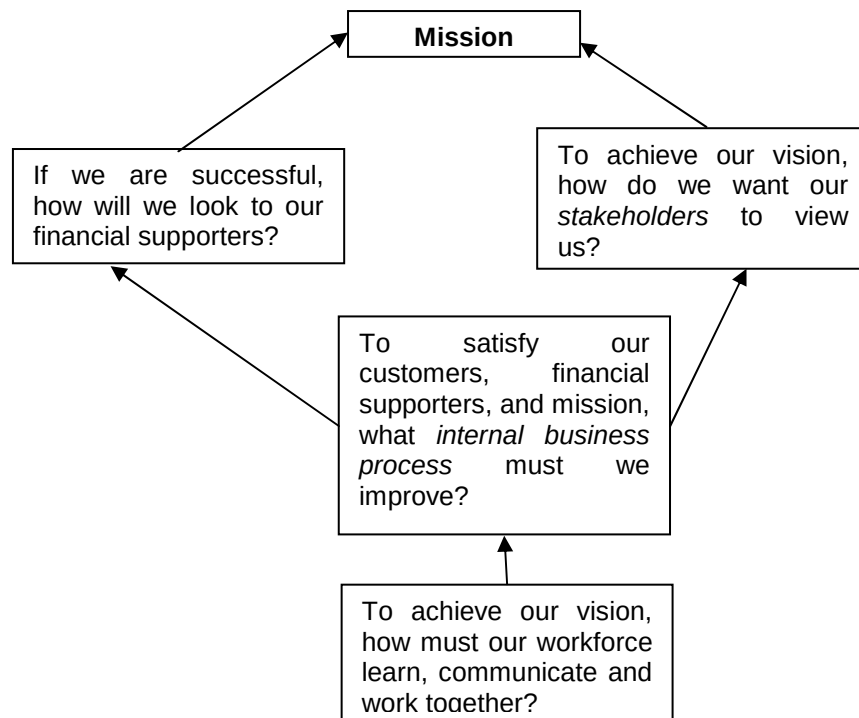


Figure 3.1: BSC framework for non-profit organisations (adopted: Kaplan & Norton, 2001)

3.3 Balanced Scorecard in Institutions of Higher Learning

Kaplan and Norton's (2001) model for the BSC in non-government organisations was adopted and modified to fit different settings. Based on the same concept, the BSC was widely applied in institutions of higher learning to improve productivity. In their study to investigate how the scorecard can serve as an instrument for the support of planning and improvement in accounting departments at universities in South Africa, Vermaak and Cronjé (2001) stated that educational institutions, like their counterparts in banks and insurance companies, aim to provide better services and that these may be enhanced by the effective use of the BSC. In the same light, Thomas (2011: 186) argued that the BSC would apply better in educational institutions as a tool to reinforce the importance of managing, rather than just monitoring performance.

Karathanos and Karathanos (2005: 222-230) suggested that the BSC should be used to enhance those areas in institutions of higher learning that are usually given less

attention. These areas include measuring students' and staff satisfaction. This should be done by bearing in mind that attracting and retaining the best talent or people is a key critical success factor for institutions of higher learning. They further argued that if the BSC is used effectively, higher institutions of learning will monitor and measure its key aspects more effectively.

Such aspects as;

- Enrolment and graduation rates of students by gender, ethnicity and programme of study
- Study completion and time spent by students on their studies
- Persistence and retention rates of students
- Student pass-rates and industrial placement data on graduates
- Graduates' satisfaction with their performance, and
- Lecturers' productivity in enhancing graduates' satisfaction.

Various performance measurement systems are currently used by organisations based on the nature of the organisation and the type of data they deal with. These systems include The BSC, Economic Value Added (EVA), Profitability Measures (ROI, ROE, ROA, and ROAA), Activity-Based Costing and Activity-Based Management (ABC and ABM), Customer Value Analysis (CVA), Total Quality Management (TQM), Performance Prism, Productivity Measures, Customer Relationship Management (CRM) and CAMEL Model (ratios). This study therefore recommends the use of the BSC to enhance the financial perspective of the TUT Polokwane campus.

CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY

No context is value-free. Academic disciplines promote particular ways of observing, dissecting, measuring, interpreting, and otherwise making sense of the phenomena under investigation. One's decisions may emerge within or resistant to these disciplinary structures. One's decisions also derive from one's research goals, which are seldom acknowledged in research reports but which meaningfully affect the design, process, and outcome of a study. (Markham, 2006)

4.1 Introduction

This chapter discusses the methodology applied in this study. The research approach followed in this study is discussed, the reasons why such an approach was chosen are comprehensively examined, and the theoretical basis behind the approach is provided. The chapter further provides a systematic step-by-step discussion of the methods that were used to collect data.

4.1.1 Background to the Methodology

This study's main objective was to develop a BSC to improve the financial perspective of an organisation by using the TUT Polokwane campus as a case study. In order to be acquainted with the research topic to achieve this objective, the researcher reviewed relevant literature relating to financial and performance measures, and the BSC (Chapter 2 and 3). Several researchers (Vermaak & Cronje, 2001; Gouws *et al*, 2006; Karathanos & Karathanos, 2006) noted that the BSC has been widely accepted as a respectable educational tool. The BSC could also help managers and their subordinates to understand the creation of value of financial results, shareholders, actions needed for achieving organisational objectives and a tool for holistic performance measuring (Huang & Hu, 2004: 75). However, the BSC was found to be lacking in providing all the information an organisation needs to deal with its present and future bearings. It lacked capabilities to scan the organisation's external environment (Davies, 2007). Amidst these shortcomings of the BSC, this

study had to review relevant literature that could help construct a solid BSC framework that involved both the internal and external focus of the TUT Polokwane campus. With the customer at the centre point, other parameters such as the market, technology, legislation, and environment that model the external environment of an organisation, were considered (Porter, 2008).

4.2 Conceptual Framework of the Research

Every conceptual structure builds on a concept that has primacy. That is simply another way of saying some element must be given meaning before meaning can be attached to others....(Gellein, 1992)

A conceptual framework outlined the possible courses of action or an ideal approach to an idea of the research study. It connected all facets of the study including the problem being addressed, the study's objective, related literature, methodologies to be used, methods of data collection, and analysis (Creswell, 2003). A conceptual framework acted as a guide that gives rationality to the study. It also helped to demonstrate the relationships of the constructs that are under investigation.

The conceptual framework of this study was developed with an understanding that business is dynamic. Therefore, to design effective performance measurement systems, systematic and well-balanced investigation of all aspects, including financial and nonfinancial performance measures, should be considered. In this study, this required the inclusion of all interactions at the university, such as the environment, culture, community and most importantly all the stakeholders. In South Africa, organisations are expected to have their accounting reporting standards congruent with the triple bottom line reporting approach (IoDSA, 2009: 17); therefore, legislation standards were also considered.

4.2.1 The Constructs for the Framework

Unlike profit-making organisations, universities' financial perspective should demonstrate those aspects that could help it obtain the targeted goal, align with the

mission and vision, and minimise costs simultaneously. They should aim at balancing efficiency and effectiveness that are central to service delivery. Ensuring effective service delivery, will in turn contribute to reducing costs, improving the quality of services, increasing accessibility of resources that will attract students, and retain high calibre, staff hence improving the financial perspective. Davies (2007) recommended that the BSC development project should incorporate strategic building elements that could lead to an unambiguous scorecard. He further asserted that such building elements should roll out across all aspects and functions of the organisation.

This study identified six constructs (perspectives) on which measurements were based that tested and verified their role in improving the financial perspective of the university. These were:

- a) Relationships and culture-strategic construct
- b) Stakeholder-strategic construct
- c) Internal business practices and processes-strategic construct
- d) Intellectual capital-strategic construct
- e) Value creation-strategic construct
- f) Corporate conscience-strategic construct

These constructs are detailed as follows:

- a) **Relationships and Culture-Strategic Construct:** This construct assumed that the organisation is embedded in a cultural background in which it operates. Hence, this construct ought to establish the influence of the university's relationships with its culture and stakeholders. From this construct hypothesis (H1) of the study was developed.

H1: Improving the corporate relationship and culture between TUT and its stakeholders will positively improve the financial perspective of the Polokwane campus.

- b) **Stakeholder-Strategic Construct:** This sought to establish the degree of influence of the university's stakeholders. With such understanding, this study defines stakeholders as students, staff including administrators, and all other individuals or entities that have an interest in the daily operations of the university. This construct formed the basis of the second hypothesis (H2) of this study.

H2: Strong emphasis on TUT's stakeholders will have a positive influence on the financial perspective of the Polokwane campus.

- c) **Practices and Processes-Strategic Construct:** This construct considered the internal operations and way of doing things. This included financial reporting standards being followed, employment of staff, and university ethics. This construct further examined the planning processes and their congruence with the university's mission and objectives. From this perspective, a third relationship (H3) was hypothesised.

H3: Improving the internal business processes and practices of TUT will positively improve the financial perspective of Polokwane Campus.

- d) **Intellectual Capital-Strategic Construct:** This construct examined the contribution to the university's financial perspective in terms of intellectual capital. These included issues such as corporate performance, contribution of stakeholders for example, the lecturers' contributions through research and external funding. Based on this understanding, hypothesis (H4) was formulated.

H4: Intellectual capital of TUT positively influences the financial perspective of Polokwane campus.

- e) **The Value Creation-Strategic Construct:** This construct's intention was to investigate the role played by value creation within the university. It examined the processes and procedures used to create value and wealth within the university and how resources are distributed among the university's

stakeholders. This perspective was based to hypothesise the fifth relationship (H5).

H5: Maximising value creation within TUT has a positive influence on financial perspective of the Polokwane campus.

- f) **Corporate Conscience-Strategic Construct:** This construct investigated the ethical processes followed in sharing of the university's created values and wealth among the stakeholders. From this understanding, the sixth hypothesis (H6) was developed.

H6: Appropriate allocation of TUT's wealth value to different stakeholders based on equitable and ethical aspects will improve the financial perspective of the Polokwane campus.

4.2.2 Indicators for the Constructs

As Davies (2007) noted, the BSC controls behaviour within an organisation. Hence, the effectiveness of the BSC could be measured if validating indicators or attributes are properly constituted. Kaplan and Norton (1996) recommended four to five indicators for each perspective. On the other hand, Radnor and Lovell (2003) suggested that the number of indicators to be included for each construct, will entirely depend on the nature and structure of the organisation. Their study recommended four to 48 indicators as being sufficient to measure the suggested constructs of the BSC. They further suggested that the selected indicators should be inclusive enough to cover all the managerial and operational aspects of the organisation under study.

This study established 35 indicators with the relationships and culture-strategic construct having nine (9), stakeholder-strategic construct five (5), practices and processes-strategic construct five (5), intellectual capital-strategic construct five (5), value creation-strategic construct four (4) and corporate conscience-strategic construct seven (7). This study ensured sufficient coverage of both managerial and operational tasks (Radnor & Lovell, 2003). Figure 4.1 illustrates the conceptual framework of the study.

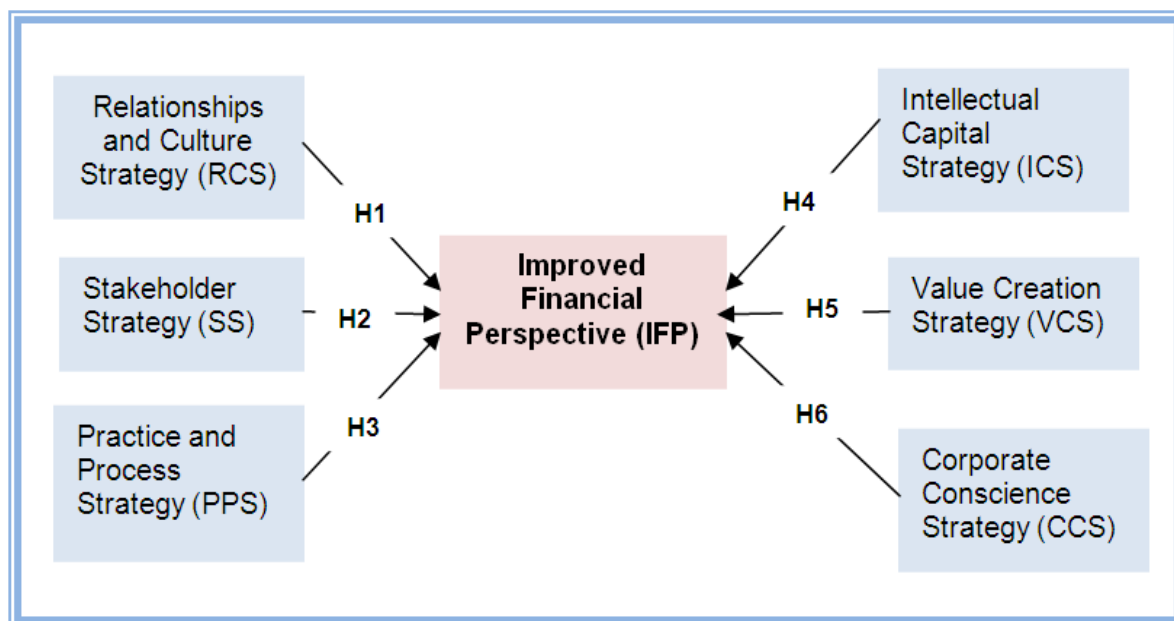


Figure 4.1: Conceptual Framework (Adopted from Radnor & Lovell, 2003)

4.3 Research Process and Design

Research may be looked at as a systematic process of collecting and analysing information to improve understanding of the issues being investigated. Research is said to be significant when a solution for the investigated problem is obtained (Creswell, 2003). This implies that, research requires systematic processes to be followed in order to reach a desirable solution. The researcher therefore had to devise better strategies and improve planning. Pluye *et al.* (2009) referred to this systematic planning as the research design. They stated that research design should lessen the possibilities of drawing incorrect causal inferences from the data collected for the study. They further asserted that the research design used for the study should be logical and present all the processes in a cyclic pattern.

This study followed a six-step research design suggested by Yin (2009). These steps are problem definition, research design planning, planning the sample from which data is to be collected, collect the data from the selected sample population, analyse the collected data, and formulate the conclusion. Figure 4.2 illustrates the research design followed in this study.

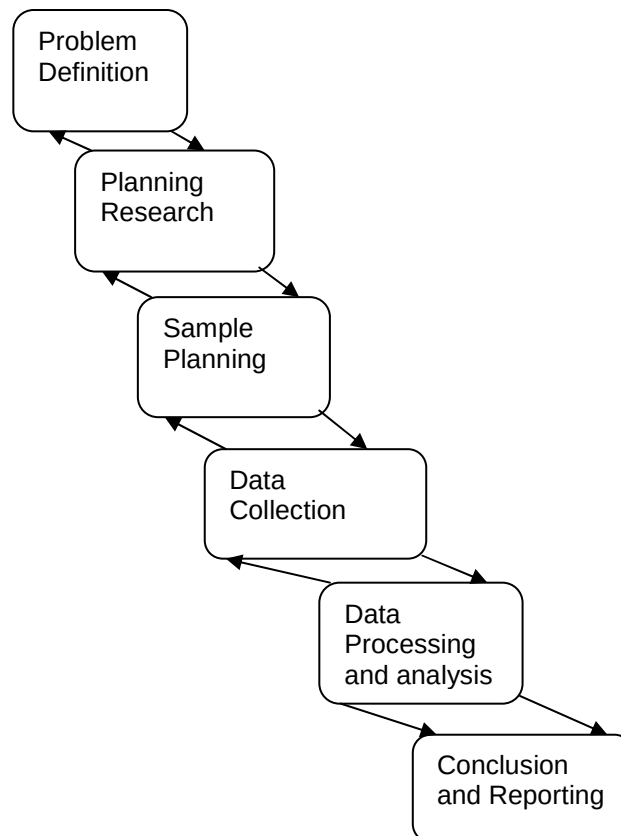


Figure 4.1 Research Processes Steps (Adopted from Yin, 2009)

4.3.1 Research Approach

This study used both primary and secondary data. The secondary data was obtained by reviewing related literature from which the constructs of the conceptual framework were extracted. The primary data was collected using questionnaires. In this processes the study aimed to collect as much data as possible from all categories of respondents. This study aimed at using the BSC to improve the financial perspective of the TUT Polokwane campus. In this study, a conceptual framework was developed and relationships between the suggested construct hypotheses. To prove these hypotheses and find the explaining power of the suggested constructs, quantitative methods were used to analyse the data.

4.3.2 Qualitative and Quantitative Research

Quantitative and qualitative approaches have been widely used in academic research. Qualitative methods are used in situations where emphasis on processes and meanings or feelings is needed. In such situations, the study's intention would be to establish the facts that may not be required to be measured in quantity, amount, or number of occurring (Creswell, 2003; Yin, 2009).

Quantitative studies on the other hand, may apply to those circumstances where deductions are to be made based on the argument on the measurement and analysis of casual relationships between the suggested constructs of the study (Yin, 2009). In many instances, the choice between methods depended on the approach a researcher may wish to apply to solve the problem at hand (Pluye *et al.*, 2009). Since research problems are usually distinct, better choices are required when choosing between methodologies. This study opted for quantitative methods to achieve its objective systematically. However, both research objectives and hypotheses were used during the study. This is viewed as acceptable by Creswell (2008:132) who suggested that in quantitative research, predictions in the form of hypotheses could be made to envisage the expected relationships among variables or constructs. He further explained that these hypotheses could be used as a means of stating the direction a study will take, and to support the research objectives – the role of which is to indicate the goal or aim of the study.

4.4 Data Collection Methods

Two methods of collecting data were employed in this study. These were literature review or documentation and questionnaires.

4.4.1 Literature and Document Review

Besides academic publications, this study reviewed other documents available at the university. These included financial reports, administrative documents such as annual reports, project proposals, progress reports, and baseline information. From this

review, secondary data was collected that provided the study with a basis for the primary data collection. However, this method alone was not considered enough for data collection since in many cases, organisations report successes but not the failures or problems, particularly when dealing with financial issues. To overcome this challenge, this method was backed up by primary data collections using questionnaires.

4.4.2 Questionnaires

From the conceptual framework, (section 4.2) six hypotheses were suggested that were based on the perspectives or constructs established from the literature. To prove the influence of these relationships, quantitative data was collected by using close-ended questionnaires. Another reason that the questionnaires were used was that the students and staff, who play a role as stakeholders, were in the study's targeted population. Hence, to have a significant representation of this wide study population, questionnaires were sought to be more relevant for data collection.

From the early stages of this research, the study was challenged by the lack of cooperation from the staff working in the finance department and in administration. Many of these staff thought that this study intended to spy on them and to expose their weakness. When this study later received a clearance from the top administration and research committee, it was considered wise to complete a primary survey by using a questionnaire rather than other methods. The questionnaire was thought to be a more transparent method of data collection to the complement of fearful and uncertain staff.

On deciding whether questionnaires should be open-ended or close-ended, this study chose close-ended questionnaires. In addition to the choice of a questionnaire as data-collection method for this study, Pluye *et al.* (2009) stated that close-ended questionnaires are quick to answer and code. Furthermore, close-ended questionnaires were more preferable over open-ended questionnaires because they exhibit no difference between articulate and inarticulate respondents. This was an important factor to consider keeping the entire population group for this study in mind.

Close-ended questionnaires have the advantage of being more specific and therefore had a high likelihood to communicate similar meanings.

4.4.3 Instrument Development

The research-measuring instrument of a close-ended questionnaire was developed with two sections. The first section (section A) investigated the demographics of the respondents and the second (section B) recorded the scorecard influence on the financial perspective. Section A had eight items that, among others, investigated the biographical data of the respondents such as age and gender. Other items were concerned with knowing the type of respondent answering the questions. These items included the level of education of the respondent, experience, and awareness of the topic “BSC” under study.

In the development of the conceptual framework, six constructs were identified (Figure 4.1). The six constructs of the conceptual framework formed the sections of the questionnaire. As discussed in section 4.2.2 above, 35 indicators were identified for the six constructs. The indicators were relationships and culture strategy = 9, stakeholder strategy = 5, practices and processes strategy = 5, intellectual capital strategy = 5, value creation strategy = 4 and corporate conscience strategy = 7. These indicators were used to formulate the question items of the questionnaire (Appendix A). A close-ended questionnaire was designed based on five-point Likert scale where (1) represented strongly disagree, (5) represented strongly agree, (3) represented neutral, whereas (2) and (4) were respective intermediate values.

The last section of the questionnaire was to evaluate the opinions of the respondents on the importance of the overall contribution for each construct to the financial perspective of TUT. This section had six items corresponding to the construct. The answers to the questions were 1= Not important at all, 2 = less important, 3 = important, 4 = very important, and 5 = extremely important.

After the questionnaire was designed, it was important to consider the perception of the respondents. It was also vital to consider the different levels of the respondents in terms of education background, work experience, and general awareness. Most

importantly, it was essential to inform the respondents of their rights when answering the questionnaire, the ethical guidelines followed in conducting research, and the privacy of the obtained answers. Therefore, a covering letter was included which the respondents had to read before answering the questionnaire.

4.4.4 *Piloting the Research Instrument*

Before the main survey was conducted, it was thought important to pilot the designed measuring instrument to test its effectiveness and reliability. The instrument was tested on five administrative, and five academic staff. The piloting processes helped the researcher to fine-tune the measuring instrument and prepare it for the main survey.

The questionnaire constructs and items were coded in relation to the six constructs. Construct 1, relationship and culture strategy construct was coded as RCS and its items were coded as RCS1 ---RCS9. Construct 2, stakeholders strategy was coded as SS and its items as SS1 ---SS5. Construct 3, practice and process strategy was coded as PPS and the items as PPS1 ---PPS5. Construct 4, intellectual capital strategy was coded as ICS and its items as ICS1 ---ICS5. Construct 5, value creation strategy was coded as VCS and its items as VCS1—VCS4. Lastly construct 6, the corporate conscience strategy was coded as CCS while the items were coded as CCS1—CCS7.

4.4.5 *Selecting Participants*

As the study population was relatively small especially from the management staff side, it was very important to know from which staff data was to be collected. Traditionally, researchers use either probability or non-probability sampling. When using probability sampling, a researcher makes deductions from the sample population under investigation. The probability representation for each sample of the participants is predetermined by the researcher (Saunders *et al.*, 2000). Conversely, when non-probability sampling is used, selected alternative techniques or subjective methods could be applied based on the circumstances surrounding the research.

Such circumstances may include personal experience, expert judgment, educational background, and training, the nature of work, convenience, and participation willingness.

As discussed earlier, the willingness of the management staff to participate in the study was very low. This fact led to the use of the non-probability judgment sampling. However, as judgmental sampling was used, it was essential to ensure that a viable representation of all groups of the target population for the study was achieved. This was done by considering the major objective of the study: using the BSC to enhance the financial perspective of the university. However, in spite of the unwillingness, the researcher ensured that a solid number of staff from management, financial and human resources departments completed and returned the questionnaires.

4.4.5.1 Participants from Management

The participants included representatives from the top management at the campus, and consisted of the campus director, academic managers and heads of departments. This category of staff forms the Executive Committee (EXCO) that is responsible for making and implementing the institutional decision-making. The EXCO ensures that the financial resources needed at the campus are sourced and utilised appropriately, as they have to be able to account for the funds to the head office of the university where all reconciliations are done. This argument implies that this group of staff were relevant for the study and therefore were included in the study population.

4.4.5.2 Participants from Finance Department

These participants included staff that are in the mainstream of executing the financial activities of the university in line with the institutional regulations. Staff who work in the finance department are the custodians of the university funds and are actively involved in the sourcing and utilisation of funding. All the campus financial expenditures have to be processed by this department and at any given time, the department is in the position to provide the financial standing of the campus. Further, the department is also in direct contact with the financial systems that are being

utilised and can provide valuable input regarding the challenges they face as well as suggesting possible recommendations to improve the problems. This group of staff was seen as relevant to participate in this study.

4.4.5.3 Participants from Human Resource Department

The human resource (HR) department is responsible for the recruitment of both academic and non-academic staff within the university. This study's objective also included the determining and establishing of how the campus could recruit and retain high calibre staff. This implies that the HR departmental staff are vital players in doing so, and for this reason, were found to be relevant for data collection.

4.5 The Main Survey

After deciding on the participants of the study, the questionnaires were distributed and the main survey commenced. Considering that primary data collections applied to the TUT Polokwane campus only that has a small population, 45 questionnaires were distributed. Of these, 12 were distributed to management, 20 to finance and 13 to human resource staff respectively. Table 4.1 illustrates the distribution and the respective response rates the questionnaires.

Table 4.1 Questionnaire Distribution and Response Rates

Respondents Category	Questionnaires Distributed	Questionnaires Returned	Response Rate (%)	Usable	Usable Rate (%)
Management staff	12	12	100	12	100
Finance staff	20	18	90	18	100
Human Resource	13	13	100	12	92
Total	45	43	95.6	42	97.7

Of the returned questionnaires, it was established that some could not be used in the analysis due to incomplete data, and were discarded. Of the discarded questionnaires, it was established that the respondents had no idea of what a BSC is. This caused many of the question items to be left blank, therefore, rendering no meaning to the study. However, as Kothari (2009: 287) suggested, a sample size of 30 is considered statistically large enough to ensure consistence, validity, and reliability of the collected data. A total 42 valid datasets obtained for this study was presumed large enough to give reliable results. After the screening processes, the questionnaire was fine-tuned and then transcribed into Statistical package for social scientists (SPSS) v19.0 for analysis.

4.5.1 Time Horizon

Since data for this study was collected in a once-off survey due to time constraints and the challenges discussed in the previous sections, this study opted for the cross-section survey. Markovitz, *et al.* (2012:2) stated that a cross sectional survey is a study where data is collected once, probably over a given period. The advantage of this type over its counterpart the longitudinal survey is that it enables the researcher to compare different variables and population groups at a single point in time.

However, the longitudinal survey enables the researcher to make observations of the same variables of data over longer periods (Markovitz, *et al.*, 2012: 2). Despite the advantages of this type of survey to detect developments or changes in the

characteristics of the target population, it was not found to be applicable for this study.

4.6 Data Analysis

Yin (2009) stated that research is considered complete when the objectives of the research are achieved. He emphasised that this may only be achieved if the collected data was analysed thoroughly. He further suggested that when conducting research, it is paramount for the researcher to identify what to analyse, how to analyse, and why it should be analysed. When doing this he suggested that the researcher should do data reduction if applicable where abstracts of data are selected, simplified, focused, and transformed to a given context. This mostly applied to studies that used the qualitative approach. He further suggested that after data has been reduced, it is presented in an organised manner, and then compressed to derive conclusions from it. In making conclusions, the researcher attaches meaning to the events, establishes regularities, sequences and patterns, casual flows and propositions. These inferences were made by using SPSS to analyse the data.

During analysis, the researcher tended to describe the main features of the collected data by arranging it in a more sensible way according to patterns and kind. During descriptive analysis, the study reported on the demographics of the participants, and how the participants answered the questionnaire items. Frequency summaries and measures that included the mean and standard deviation of the answers were also reported. The correlation of the constructs and measuring items was carried out and the set hypotheses were tested. Finally, multiple regression and multi-collinearity diagnostics analysis were completed to ensure the influence for each construct independently. More details of the results obtained from this analysis are represented in form of both diagrams and tables.

4.7 Quality of Standards

....any kind of assessment, whether traditional or "authentic," must be developed in a way that gives the assessor accurate information about the performance of the individual. At one extreme, we wouldn't have an individual paint a picture if we wanted to assess writing skills. (Worthen et al., 1993)

The research instrument used for the study was tested to ensure that it is capable of measuring what it was supposed to measure and at any time or place. Carter and Porter (2000) suggested that the research-measuring instrument should be tested for reliability and validity. They further suggested that testing the reliability and validity does not only determine the strength of the instrument, but also the quality of the research.

4.7.1 Validity

Validity tests the truthfulness and checks whether the measuring instrument actually measures what it purports to measure. It reveals the strength of the conclusions, inferences or propositions of the study as well as the approximation to the truth or falsity of a given inference, proposition or conclusion (Carter & Porter, 2000). They assert that in research three major categories of validity measurement should be carried out. The first is content validity that measures whether the measuring instrument appears to others to be measuring what it intends to measure. TUT employs statisticians who help students and staff with quantitative data analysis and these were asked to help with checking the validity of the questionnaire.

The second, criterion validity, is also referred to as concurrent or predictive validity. Criterion validity is measured by using or comparing the measurement instrument with the already existing and well-accepted measures. This study developed the measuring instrument from the literature reviewed in Chapter 2 and 3, and based on the modification of some measuring items of the instrument designed by Khomba

(2011). Therefore, this assured the meeting of criterion validity of the instrument used in this study.

The third and last validity measure is the construct validity. This measures the relationship between the instrument's construct and the underlying theory. Construct validity was tested using Pearson correlation to determine the linear dependency between the constructs and their deliverables in the set hypotheses. In this study, this established whether the suggested constructs really measure the financial perspective of a university. The results of these tests are detailed in Chapter 5 of this dissertation.

4.7.2 Reliability

Saunders *et al.*, (2000) supported by Carter & Porter (2000) referred to reliability as the degree to which a measuring instrument is consistent and stable in measuring what it is anticipated to measure. In quantitative research methods as applied to this study, Cronbach's alpha (α) also known as alpha coefficient is used to determine the reliability of the measuring instrument as well as that of the suggested constructs statistically. Carter and Porter (2000) stated that the Cronbach's alpha value is proportional to the inter-correlation values among the test items. This implies that the higher the correlation, the greater the α -coefficient value.

The overall reliability of the measuring instrument was 0.821, a value greater than the recommend threshold of 0.7 (Pallant, 2005). On the other hand, all constructs exhibited good reliability tests with the exception of the intellectual capital construct whose value was just slightly above the threshold. Table 4.2 shows the reliability test values of the individual constructs.

Table 4.2 Cronbach's α -Coefficient for the Reliability Individual Construct

Construct	Cronbach's Alpha (α)	α –Coefficient for Standardised Items	No. of Items
Corporate relationship and culture (CRC)	0.731	0.748	9
Stakeholder strategy (SS)	0.769	0.775	5
Practice and process strategy (PPS)	0.773	0.778	5
Intellectual capital strategy (ICS)	0.807	0.808	5
Value creation strategy (VCS)	0.824	0.829	4
Corporate conscience strategy (CCS)	0.703	0.718	7

4.8 Summary

This chapter discussed methods that were followed in this study. The chapter also discussed the quantitative research approach that was followed in the collection and analysis of data. It further discussed the process that the researcher went through to design the data collection instrument, its reliability and validity. Finally, the chapter demonstrated results that were obtained from the reliability tests for the individual constructs of the measuring instrument.

CHAPTER 5: PRESENTATION AND ANALYSIS OF RESULTS

It is a curious property of research activity that after the problem has been solved the solution seems obvious. This is true not only for those who have not previously been acquainted with the problem, but also for those who have worked over it for years.

(Edwin Herbert Land, 1937)

5.1 Introduction

This chapter discusses the results obtained from the survey. The chapter first discusses the frequencies of the answers obtained based on the demographics of the respondents. The chapter also provides the implications of the findings and whether they could have contributed to the general findings. The chapter also provides the descriptive analysis of the results by indicating how each question of the construct was answered. Lastly, the chapter discusses the results obtained after the hypothesised relationships were tested. Pearson correlation and multiple regression analysis were used to determine the linear dependency between the constructs and their deliverables in the set hypotheses are discussed here.

5.2 Demographics of the Participants

The first section of the questionnaire evaluated the general information of the participants in terms of their demographic statistics, experience within the workplace and general awareness of the BSC. This section established and examined how these moderating factors influence the occurrences in the constructs.

Of the total number of participants, 57% were female and a large number of the participants (61.9%) were working at operational level. The fact that 59.5% of the participants had less than two years' experience at the campus, related well to their lack of awareness of the BSC. This is because a good number of them (64.3%) indicated that they were not familiar with the term BSC. Similarly, the majority of the

participants (76.2%) indicated that they were not aware whether the BSC was being used at the campus. Table 5.1 demonstrates the results of the demographics of the participants.

Table 5.1: Demography of the Respondents

Moderating Factor	Items	Frequency	Percent	Cumulative Percent
Gender	Male	18	42.9	42.9
	Female	24	57.1	100.0
Age	21-25 yrs.	2	4.8	4.8
	26-30 yrs.	3	7.1	11.9
	31-35 yrs.	20	47.6	59.5
	36-40 yrs.	2	4.8	64.3
	41+	15	35.7	100.0
Highest Qualification	N Diploma	10	23.8	23.8
	Btech	19	45.2	69.0
	Mtech	5	11.9	80.9
	Dtech	2	4.8	85.7
	Other	6	14.3	100.0
Position	A&F Operat	16	38.1	38.1
	A&F Manag	2	4.8	42.9
	HR Operat	10	23.8	66.7
	HR Manag	2	4.8	71.5
	Mag EXCO	12	28.5	100.0
Period Spent at Present Place of Work	0-2 yrs.	25	59.5	59.5
	3-5 yrs.	3	7.1	66.6
	5-7 yrs.	7	16.7	83.3
	8-10 yrs.	4	9.5	92.8
	10 +	3	7.2	100.0
Working Experience	0-2 yrs.	10	23.7	23.7
	3-5 yrs.	11	26.2	49.9
	5-7 yrs.	8	19.1	69.0
	8-10 yrs.	5	11.9	80.9
	10 +	8	19.1	100.0
BSC Awareness	Yes	15	35.7	35.7
	No	27	64.3	100.0
BSC Previous Experience	Yes	10	23.8	23.8
	No	32	76.2	100.0

The results of Table 5.1 indicate that a good number of respondents (43%) were in management positions including the decision making body, the EXCO, who formed

28.5% of the total number of respondents. This implies that the results obtained reflect an actual picture of what is happening at the campus. For any decision to be made at the campus the EXCO had to endorse it. Similarly if the BSC is to be implemented it has to receive approval from the EXCO. Hence, the researcher only sampled out those people who are directly or closely involved in the financial decision-making, this implies that the results obtained for the study are valid. Figure 5.1 demonstrates the graphical positions of the respondents.

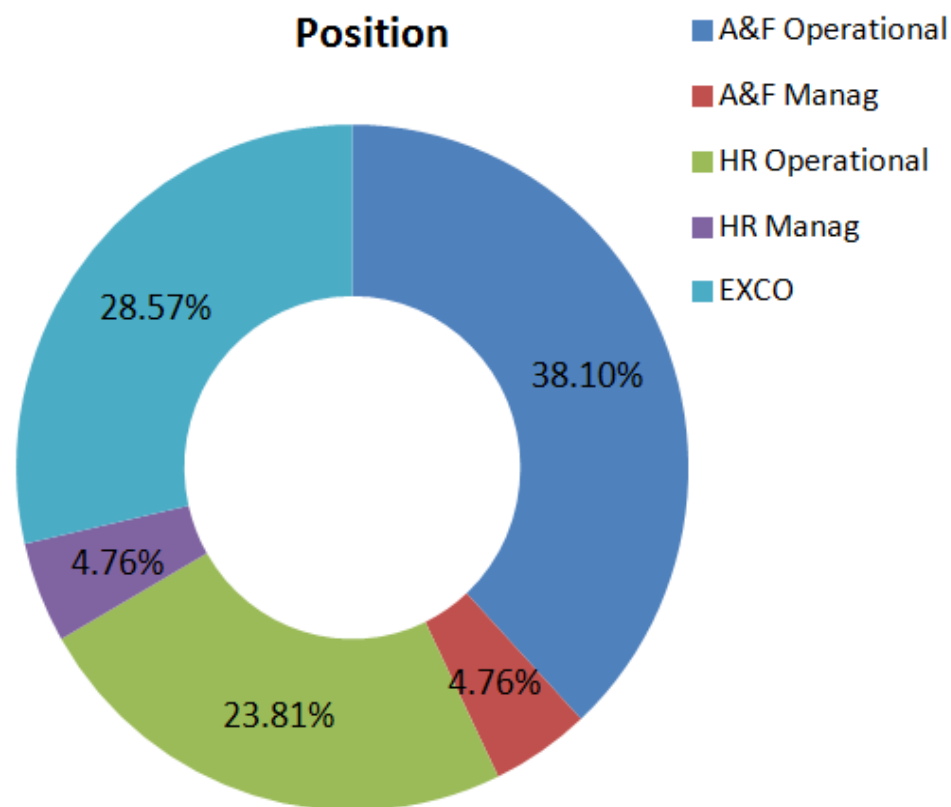


Figure 5.1: Positions of Respondents

It was noted that a large number of the respondents (59.5%) had periods of two years or less at the campus but a good number of 50.1% had a working experience of five and more years. These statistic demographics indicate that the collected data could be relied upon to draw meaningful inferences.

Table 5.1 clearly indicates that the BSC approach is a new idea as (64.3%) demonstrated poor knowledge of it. Consequently, of the participants who indicated that they are aware of the BSC, a small number (23.8%) had used it before. The

implication of this is that even though many organisations worldwide have adopted the use of BSC its awareness is still limited at TUT. Figure 5.2 illustrates the respondents' awareness of the BSC concept.

BSC Awareness

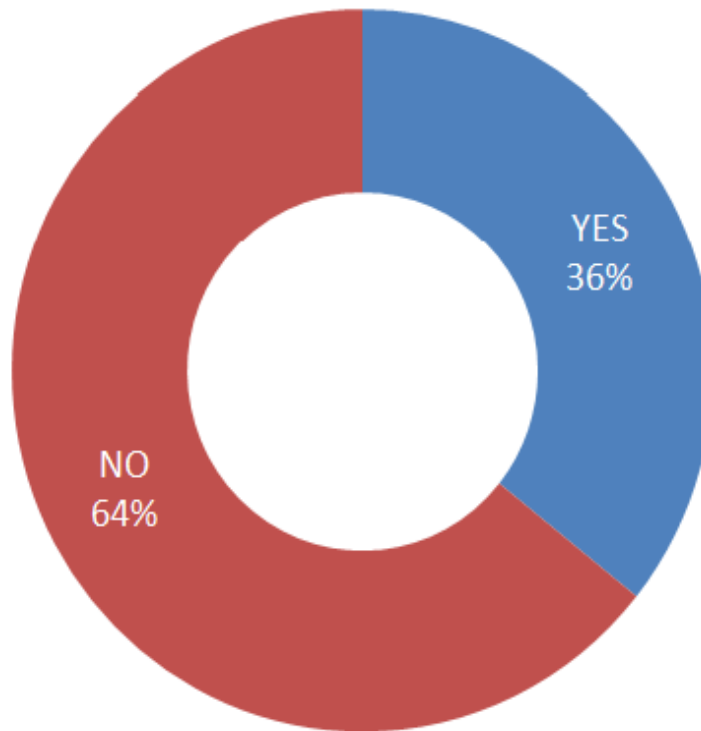


Figure 5.2: Respondents Awareness of BSC

Another indication of this would be the lack of involvement of the staff in the measure of value creation. This could be true as TUT has adopted the BSC, but many staff used it without their awareness. This could be a serious hindrance in the validation of the link between measure and the outcome.

5.3 Descriptive Statistics of the Constructs' Items

The second section of the questionnaire assessed the institution's scorecard. In this section, the participants were asked to give their opinions of how best they think the

university or their working environment satisfies the questionnaire item describing the attribute of the each of the six constructs suggested in the conceptual framework.

- a) RCS = Relationship and culture-strategic construct; and RCS1 - RCS9= are the construct's measuring items
- b) SS = Stakeholder-strategic- construct; and SS1- SS5 = are the construct's measuring items
- c) PPS = Practices and processes-strategic construct; and PPS1- PPS5 = are the constructs measuring items
- d) ICS = Intellectual capital-strategic construct; and ICS1-ICS5 = are the construct's measuring items
- e) VCS = Value creation-strategic construct; and VCS1 -VCS4 = are the construct's measuring items
- f) CCS = Corporate conscience-strategic construct; and CCS1 - CCS5 = are the construct's measuring items

Table 5.2 illustrates the descriptive statistics of the participants' responses.

Table 5.2: Descriptive Statistics of the Responses for the Construct Items

	N	Minimum	Maximum	Mean	Std. Deviation
RCS 1	42	2	5	4.41	.682
RCS 2	42	1	5	3.57	.914
RCS 3	42	2	5	3.52	.862
RCS 4	42	2	5	3.90	.484
RCS 5	42	2	5	3.69	.715
RCS 6	42	2	5	4.31	.604
RCS 7	42	2	5	3.48	.890
RCS 8	42	2	5	3.45	.861
RCS 9	42	2	5	3.29	.782
SS 1	42	1	5	2.95	1.168
SS 2	42	3	5	4.05	.309
SS 3	42	3	5	4.26	.587
SS 4	42	3	5	4.17	.437
SS 5	42	3	5	4.00	.221
PPS 1	42	4	5	4.40	.497
PPS 2	42	4	5	4.26	.445
PPS 3	42	4	5	4.17	.377
PPS 4	42	4	5	4.14	.354
PPS 5	42	4	5	4.12	.328
ICS 1	42	2	5	2.83	1.034
ICS 2	42	1	5	3.67	.928
ICS 3	42	2	5	3.88	.670
ICS 4	42	2	5	3.88	.670
ICS 5	42	2	5	4.07	.463
VCS 1	42	1	5	3.12	1.109
VCS 2	42	3	5	4.29	.596
VCS 3	42	3	5	4.00	.221
VCS 4	42	3	5	4.19	.455
CCS 1	42	2	5	4.21	.565
CCS 2	42	2	5	3.50	.994
CCS 3	42	2	5	4.21	.750
CCS 4	42	2	5	4.00	.383
CCS 5	42	4	5	4.38	.492
CCS 6	42	2	4	2.48	.804
CCS 7	42	4	5	4.26	.445
Valid N (listwise)	42				

5.3.1 Responses of the Relationship and Culture-Strategic Construct (RCS)

The results showed that all the nine measuring items of this construct were answered affirmatively. Measuring item RCS1 (*Recognition of the interdependence of relationships of stakeholders*) had the highest mean of 4.41 and the lowest standard deviation of 0.682. This item gave a minimum response of two and maximum of five implying that participants' answers ranged from "agree" to "strongly agree". This suggests that stakeholders play a crucial role in the organisation's realisation of

financial perspective. The organisation relies much on their support and there is a greater interdependency on them. This also indicates that organisations need to create a stakeholder-awareness culture in by using a structured approach and skilful management.

Results also indicate that participants strongly agreed with the measuring item RCS6 (*Financial statements are prepared based on the generally accepted accounting principles (GAAP)*) with a higher mean of 4.31. As the item had a minimum value score of two, which lead to a slightly high standard deviation of 0.604, its mean value indicates that respondents' answers were affirmatively skewed.

Conversely, questionnaire item RCS9 (*Treatment of employees as the most valuable asset of the organisation*) had the lowest mean of 3.29 and a relatively high standard deviation of 0.782. The lowest score was two, while the highest was five, showing a split that could have come from those in managerial positions scoring the item highly, while the one person in operational position scored it lower. The implication of this is that management knows that good treatment of an organisation's employees is vital to success. It is therefore important that every employee within an organisation should be linked to the business unit and the corporate strategy. Management, however, should also ensure that everyone in the organisation understands the strategy and should be motivated to help the organisation achieve its financial objectives.

Other measuring items of this construct faired averagely well with their means and standard deviations depicting a good level of acceptance. Organisations have to maintain the culture of continually reviewing and researching internal and external conditions periodically. It should also learn new opportunities, threats, and competitive conditions that may need a strategic course shift. Generally, results of this construct indicated a good understanding of the importance of the relationship and culture strategy in realising the financial perspective of an organisation.

As demonstrated in Figure 5.3, the relationship and culture-strategic construct showed an overall mean of 3.77 and a relatively minimum standard deviation 0.433.

These descriptive statistics indicated that this construct is a good perspective of the BSC for the TUT Polokwane campus.

Figure 5.3 shows a histogram of the average responses for this construct. The histogram shows a high frequency score of four implying that many respondents agreed with most of the construct measuring items.

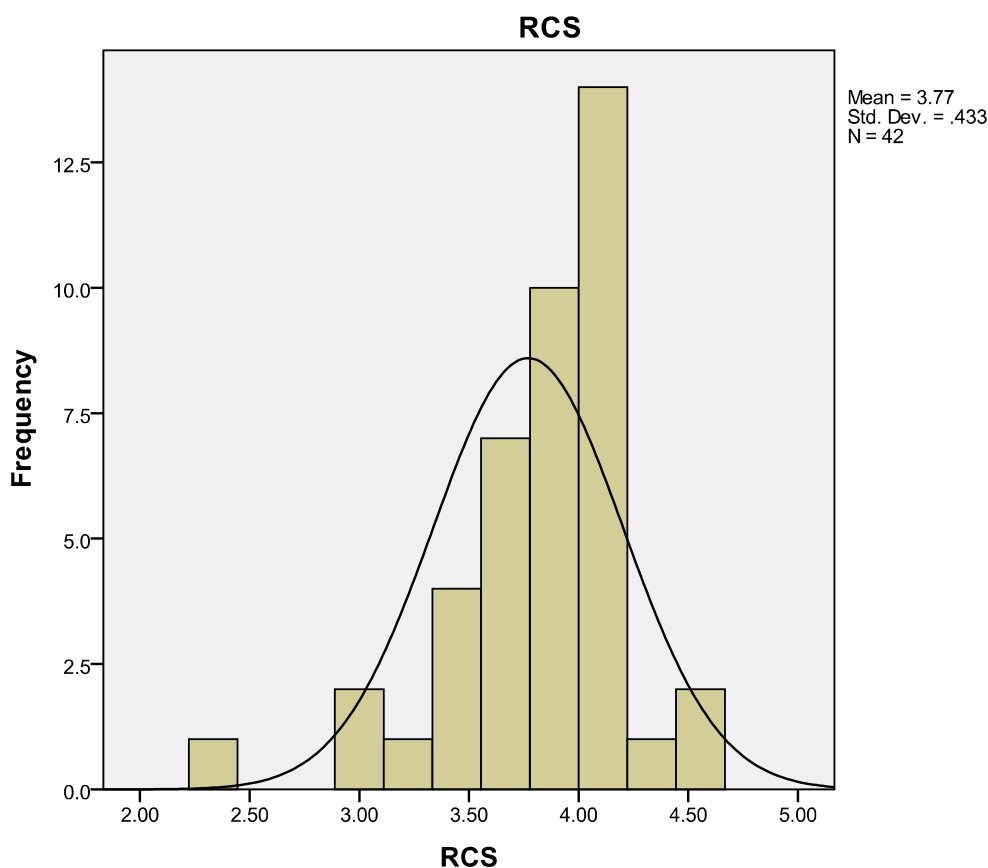


Figure 5.3 Histogram of the Responses of RCS Construct

5.3.2 The Stakeholders Strategic Construct (SS)

This construct was measured by five items of which four items were highly supported with SS3 (*TUT operations rely on debt provisions from its financiers*) having a higher mean of 4.26 and a reasonable standard deviation of 0.587. Other items SS4 (*TUT runs on the premise that community care is paramount*) and SS5 (*Government contributions are foundational to TUT business operations*) had means of 4.17 and 4.00 respectively. This implies that many of the respondents gave answers ranging

from “agree” to “strongly agree”. These items also showed little disparity among the answers given by the respondents as the two gave relatively small values of standard deviations of 0.437 and 0.221 respectively.

For this construct, only one item SS1 (*TUT puts more emphasis on maximisation of shareholder wealth than of others stakeholder’s wealth*) showed that many of the respondents were not in agreement with the statement. The statement showed a mean value of 2.95 and a higher standard deviation of 1.168. The high value of the standard deviation shows a high disparity for those responses who answered affirmatively (agreed or strongly agreed) to this questionnaire item as compared to those who rejected it (disagreed or strongly disagreed).

The results of this construct indicate that there is a good working knowledge of the role played by stakeholders in the university. Results also indicate that the shareholders should not be given higher precedence than other stakeholders should. These results are in agreement with recommendations made by Kotler, 2003; Gouws *et al.*, 2006; Etzel *et al.*, (1997: 615) that organisations need to recognise stakeholders as the vital players in improving financial perspective. This implies that as a continuous improvement process, stakeholder management requires understanding, support, and awareness from each member of the university including from the EXCO to the operational employee. Figure 5.4 shows a histogram of the overall responses for this construct.

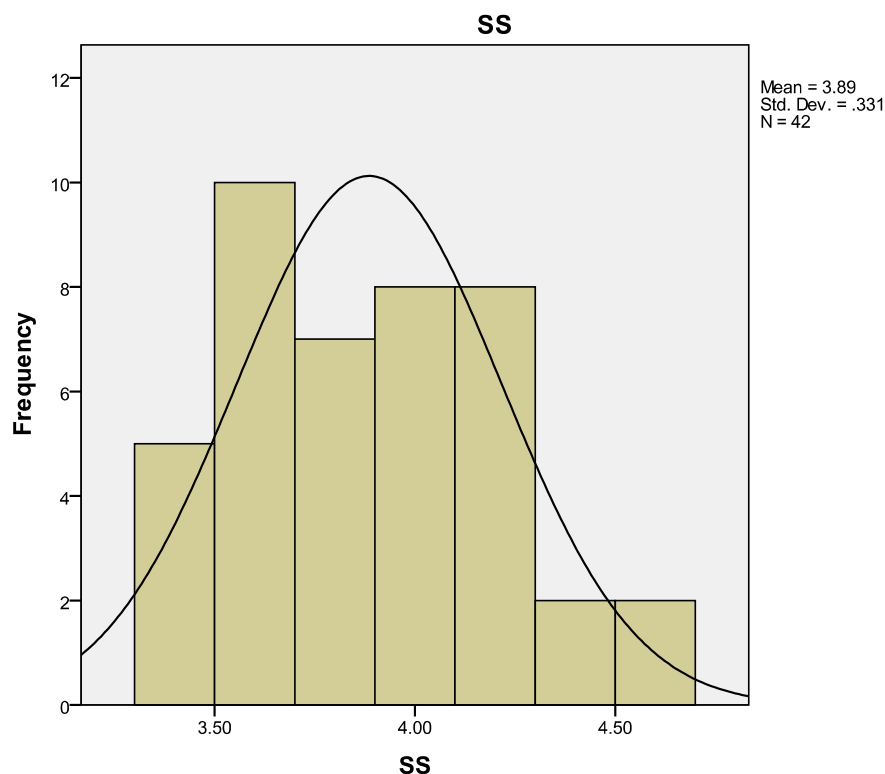


Figure 5.4: Histogram of the Responses of SS Construct

5.3.3 The Practices and Processes Strategic Construct (PPS)

The descriptive analysis Table 5.2 indicated that participants agreed/strongly agreed to all the five measuring items for this construct. The items indicated a minimum score of four and a maximum of five implying that all the questionnaire items were answered affirmatively. The construct's measuring items PPS1 (*TUT adopts processes that address concern of the stakeholders*) and PPS5 (*TUT's corporate performance indicators are geared towards its future corporate performance*) had the highest and the lowest means of 4.40 and 4.12 respectively. However, the difference between the mean values of these two items was relatively small. Therefore, the practices and processes strategic construct and all its five measuring were proven a good BSC measure item for improving the financial perspective of the university. Figure 5.5 shows the histogram explaining the participant's responses for this construct.

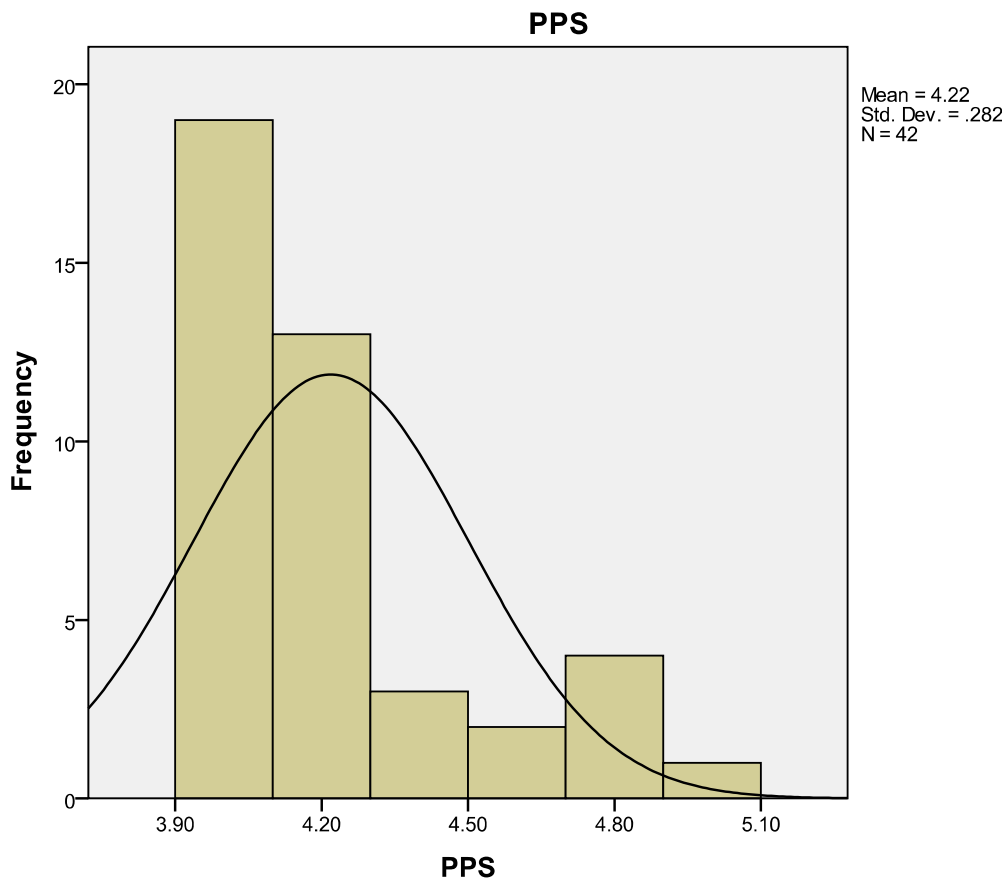


Figure 5.5: Histogram Showing Responses of PPS Construct

5.3.4 The Intellectual Capital Strategic Construct (ICS)

This construct was measured by five items of which four measuring items were scored high and ICS5 (*TUT invests heavily in supporting employee's knowledge*) scored the highest with a mean of 4.07 and a standard deviation of 0.463. Alternatively, item ICS1 (*Intellectual capital is our main source of profitability*) was scored low with a mean of 2.83 and a high standard deviation of 1.034. Other measuring items of the construct were scored relatively high which saw the construct's overall mean score of 3.67 and relatively lower standard deviation of 0.421 (figure 5.6).

These results implied that as TUT's main source of income is not from the intellectual capital, the university has considered that having and supporting human capital by combining knowledge, skills, and abilities of the employees, is vital to success. By

combining human ability and knowledge inherent in the university employees is essential in solving business problems and thereby achieving financial success.

The results of this study are in agreement with those of Neely *et al.*, (2000) and Tuomela (2005: 295) who suggested that organisations have to consider both financial and non-financial measures to achieve success. The non-financial measures could then imply all intangible assets that enable a company to function. These could include the human capital, the structural capital, and the customer capital. It follows that the intellectual capital strategic construct is a good perspective for a university's BSC. The developed BSC for the TUT Polokwane campus should ensure that the university understands the role of intellectual capital, know how it is created and bridge the knowledge gap between employees.

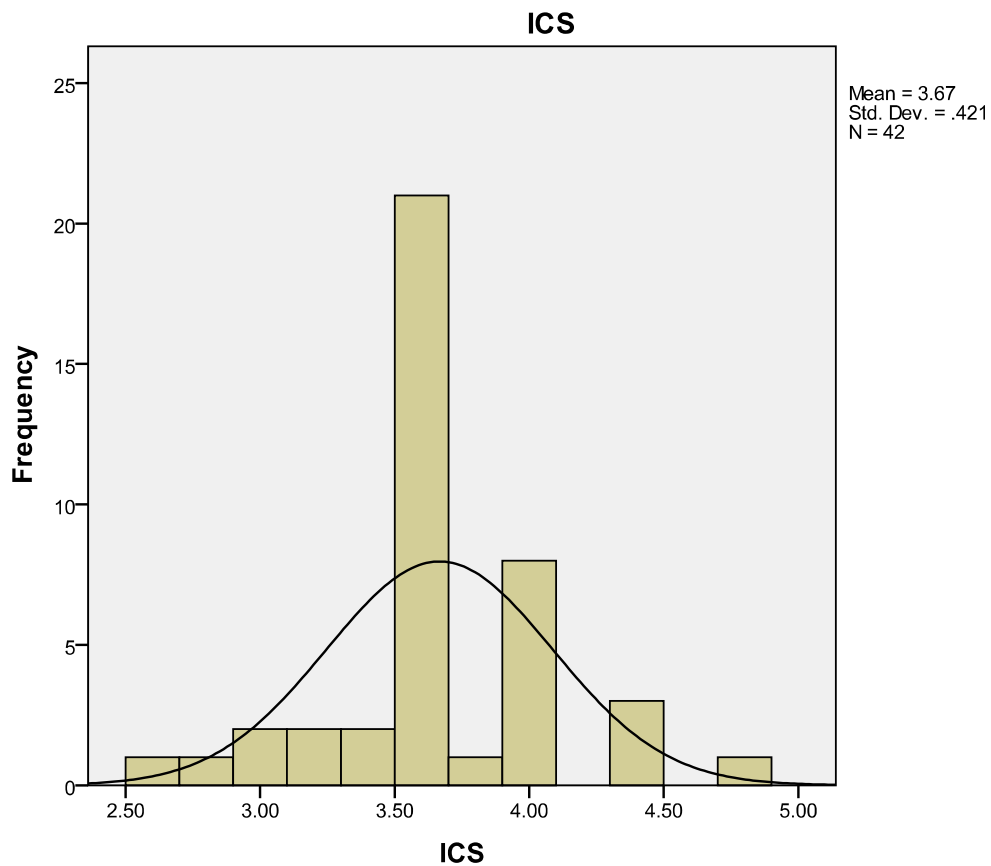


Figure 5.6: Histogram Showing Responses of ICS Construct

5.3.5 The Value Creation-Strategic Construct (VCS)

This construct assessed the perspectives that would be considered critical towards the internal operations for maximising TUT's value or wealth. The construct was measured by five items. Apart from the first measuring item, VCS1 (*Our profitability success is a result of inputs from various stakeholders*) which was scored with a mean of 3.12, the complement of the items showed a relatively high mean. This implies that participants highly agreed with the role played by the measuring items. This agreement shows items VCS2, VCS3, and VCS4 scoring means of 4.29, 4.00, and 4.19 respectively were the values show high affirmative responses to the questionnaire items. Similarly, the corresponding standard deviation values for VCS2, VCS3, and VCS4 that are 0.596, 0.221, and 0.455 respectively indicated fewer disparities in the respondents' answers.

Figure 5.7 demonstrates the histogram of the overall participants' responses to the value creation-strategic construct. The overall mean value of 3.90 and standard deviation of 0.349 for the construct indicated that the construct is a good perspective to consider when developing a BSC for the TUT Polokwane campus. These results implied that the value creation strategy is a good remedial for the campus that had been confronted with increasing competition and slowing market growth. Both students and high-calibre academic staff's intended growth had slowed and the future of the university had been put in a balance. Including this construct in the BSC could help the university to become more responsive, variable, focused, and resilient thereby improving its financial perspective.

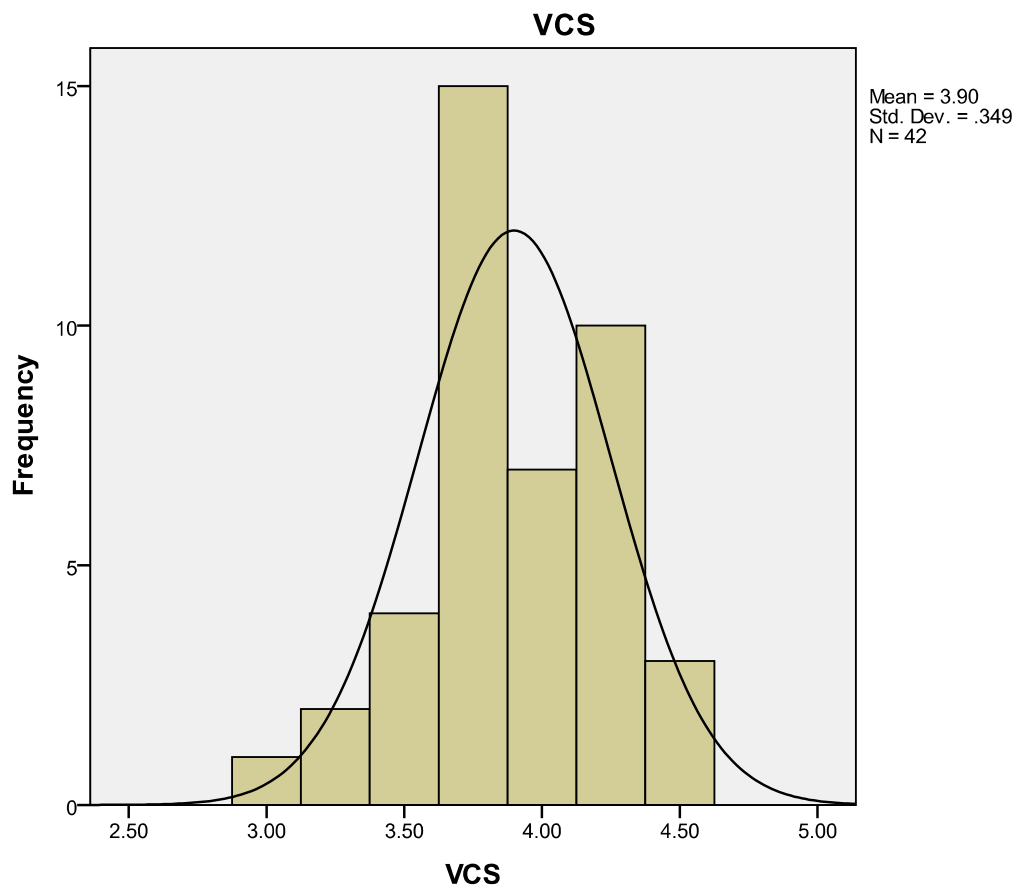


Figure 5.7: Histogram Showing Participant's Responses for the VCS Construct Items

5.3.6 Corporate Conscience-Strategic Construct (CCS)

The last suggested construct for the financial improvement framework of the TUT Polokwane campus was corporate conscience strategy. This construct was measured by seven items. All these measuring items, apart from VCS6 (*Management and employees of TUT take direct responsibility for social problems that they have caused*), scored means that ranged between 3.50 and 4.26. The VCS6 measuring item had a high standard deviation 0.804 that showed a high disparity between those few participants that agreed/strongly agreed and those that disagreed/ strongly disagreed with this statement.

Judging from the overall relativistic high mean of 3.86 and a small standard deviation 0.289, Figure 5.8, respondents' answers indicated that this construct is a good indicator and it should be included in the BSC for the TUT Polokwane campus.

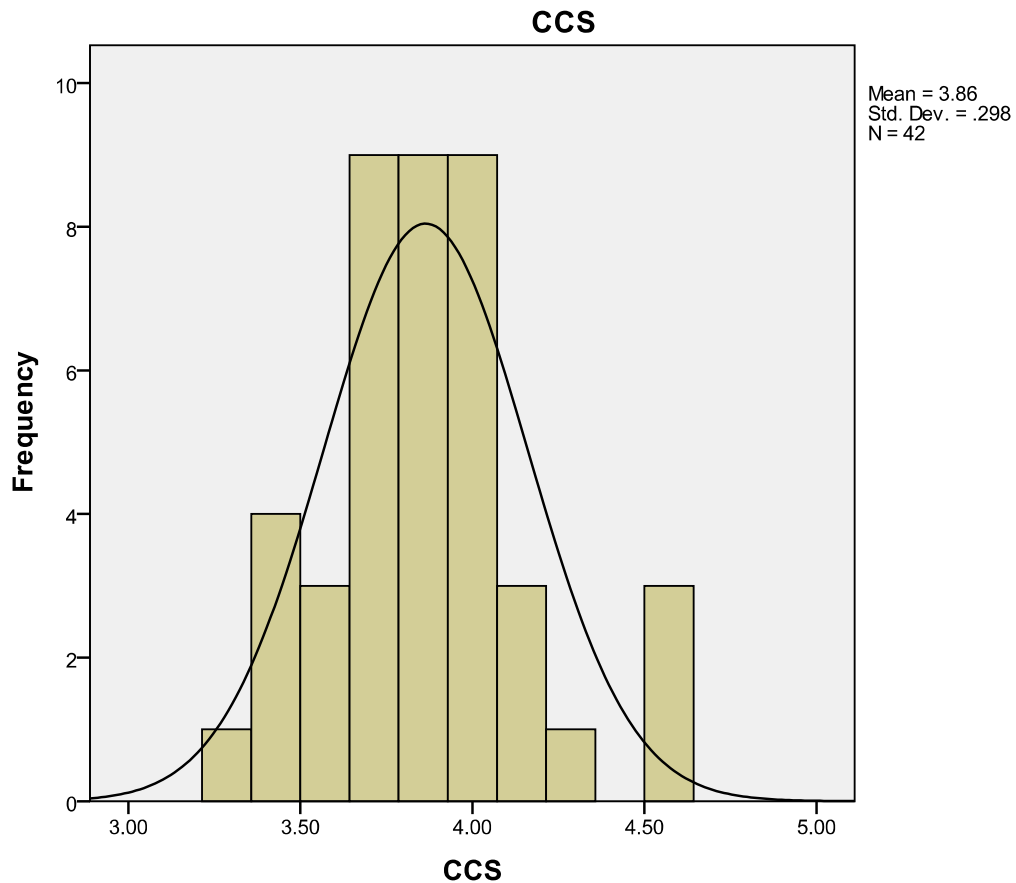


Figure 5.8: Histogram Showing Participant's Responses for the CCS Construct Items

5.3.7 Summary of the Descriptive Analysis of the Constructs

Apart from a few measuring items of constructs that the respondents disagreed with; results showed that the suggested constructs of the conceptual framework make a good representation of the university's BSC. Modification of the current BSC should take into account these constructs and their measuring items. However, these constructs needed to be tested further to confirm the hypothesised relationships. For further analysis, Pearson rank correlation was used to determine the linear dependency between the constructs and their deliverables in the set hypotheses.

Further, multiple regression analysis was used to explain the influences of the responses and the explanatory variables while controlling others. However, much as the predicting variables are referred to as independent, they are not statistically independent from individual others. As suggested by Bring (1994), it was also

essential to carryout multi-collinearity diagnostics by using the variance inflation factor (VIF). The extract of the results are as illustrated in the next section.

5.4 Bivariate Analysis of the Constructs

To determine the relationships that existed between the constructs and the constructs' measuring items Bivariate Correlations were used. In this case, the study intended to establish the degree of relationship, or how closely the constructs or measuring items of the construct were related. The expected value for a correlation coefficient could be either positive or negative ranging from ± 1 with a '0' zero correlation coefficient indicating no relationship. This study used the Pearson's correlation to find correlation coefficients between constructs, and constructs and measuring items for the constructs. Generally, correlations above 0.80 are considered well enough for analysis.

Tables 5.3 to 5.8 illustrate extracts of the Pearson correlation coefficients of the measuring items per construct and Table 5.9 indicates the correlation between the six constructs. On the other hand, Table 5.10 demonstrates the extracted significance coefficients used to test the hypothesised relationships.

5.4.1 *Correlation of the Relationship and Culture-Strategic (RCS) Construct Items*

This section evaluated the interrelationship between the RCS construct's measuring items. The purpose of each was to determine how each measuring item influences the other. Knowing the influence between the measuring items could assist the managers at the TUT Polokwane campus to find how best these attributes could be regulated to improve the financial perspective of the campus. These influences are as shown in Table 5.3

Table 5.3: Extract of the Pearson Correlation Coefficients for the RCS Construct Items
Correlations

		RCS 1	RCS 2	RCS 3	RCS 4	RCS 5	RCS 6	RCS 7	RCS 8	RCS 9
RCS 1	Pearson Correlation	1								
	Sig. (2-tailed)									
	N	42								
RCS 2	Pearson Correlation	.151	1							
	Sig. (2-tailed)	.340								
	N	42	42							
RCS 3	Pearson Correlation	.178	.323	1						
	Sig. (2-tailed)	.260	.037							
	N	42	42	42						
RCS 4	Pearson Correlation	.285	.456**	.414**	1					
	Sig. (2-tailed)	.068	.002	.006						
	N	42	42	42	42					
RCS 5	Pearson Correlation	.089	.426**	.388	.124	1				
	Sig. (2-tailed)	.574	.005	.011	.434					
	N	42	42	42	42	42				
RCS 6	Pearson Correlation	-.046	.158	-.038	-.063	.001	1			
	Sig. (2-tailed)	.770	.319	.812	.690	.993				
	N	42	42	42	42	42	42			
RCS 7	Pearson Correlation	.109	.257	.303	.164	.659*	-.145	1		
	Sig. (2-tailed)	.492	.101	.051	.298	.000	.361			
	N	42	42	42	42	42	42	42		
RCS 8	Pearson Correlation	.163	.252	.527**	.340	.431**	-.088	.476**	1	
	Sig. (2-tailed)	.302	.107	.000	.028	.004	.579	.001		
	N	42	42	42	42	42	42	42	42	
RCS 9	Pearson Correlation	.134	.073	.207	.202	.227	-.114	.325*	.618**	1
	Sig. (2-tailed)	.398	.646	.189	.199	.148	.471	.035	.000	
	N	42	42	42	42	42	42	42	42	42

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Results in Table 5.3 indicated that some measuring items are significantly positively correlated at $p < 0.05$. These included RCS3 with RCS2, RCS5 with RCS3, RCS8 with RCS4, and RCS9 with RCS7. This implies that a change in one causes a positive change in the other. For instance, if top management listen to and frequently communicate with the stakeholders regarding their concerns and contributions, they will make sure that the financial reports are constructed towards meeting the external stakeholders' interests.

However, some items indicated that they have a high positive significant correlation with others at $p < 0.01$. These included RCS4 with RCS2 and RCS3, RCS5 with RCS2, RCS7 with RCS5, RCS8 with RCS3, RCS5 and RCS7, and RCS9 with RCS8. Out of the nine measuring items, RCS6 (*TUT's financial statements are prepared based on the generally accepted accounting principles (GAAP)*) was found not to be correlated with any other item. The implication of this is that GAAP is mandatory to many organisations and is statutory regulated (IoDSA, 2009: 49).

5.4.2 Correlation of the Stakeholders-Strategic (SS) Construct Items

Table 5.4: Pearson Correlation Coefficients for the SS Construct Items

		Correlations				
		SS 1	SS 2	SS 3	SS 4	SS 5
SS 1	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	42				
SS 2	Pearson Correlation	.209	1			
	Sig. (2-tailed)	.183				
	N	42	42			
SS 3	Pearson Correlation	.019	.064	1		
	Sig. (2-tailed)	.907	.687			
	N	42	42	42		
SS 4	Pearson Correlation	.207	.301	.016	1	
	Sig. (2-tailed)	.188	.052	.921		
	N	42	42	42	42	
SS 5	Pearson Correlation	.000	.358*	.188	.505**	1
	Sig. (2-tailed)	1.000	.020	.233	.001	
	N	42	42	42	42	42

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Results indicated that there was significant correlation between measuring item SS5 (*Government contributions are foundational to our business operations*) and SS2 (*TUT's customers comprise the most important element of its business*) at $p < 0.05$. SS5 was also found to have a significant correlation at $p < 0.01$ with SS4 (*TUT runs on the premise that community care is paramount*). On the other hand, SS1 (*TUT puts*

more emphasis on maximisation of shareholders wealth than those of others stakeholders) did not correlate well with other items, giving 0.000 correlation with SS5 (*Government contributions are foundational to our business operations*). These results corresponded well with those obtained from the descriptive analysis.

5.4.3 Correlation of the Practices and Processes-Strategic (PPS) Construct Items

Table 5.5: Pearson Correlation Coefficients for the PPS Construct Items

Correlations						
		PPS 1	PPS 2	PPS 3	PPS 4	PPS 5
PPS 1	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	42				
PPS 2	Pearson Correlation	.281	1			
	Sig. (2-tailed)	.071				
	N	42	42			
PPS 3	Pearson Correlation	.542**	.605**	1		
	Sig. (2-tailed)	.000	.000			
	N	42	42	42		
PPS 4	Pearson Correlation	.356*	.685**	.548**	1	
	Sig. (2-tailed)	.021	.000	.000		
	N	42	42	42	42	
PPS 5	Pearson Correlation	-.004	.283	.230	.060	1
	Sig. (2-tailed)	.982	.070	.143	.706	
	N	42	42	42	42	42

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Results of Table 5.5 show that measuring items PPS3 (*TUT is capable of objectively measuring the social impact of its operations*) had a significant correlation coefficient PPS1 (*TUT adopts processes that address concern of the stakeholders*) and PPS2 (*TUT use benchmarking to continuously improve the business processes*) at $p < 0.01$. These results support the literature (Ehlers & Lazenby, 2004:218; Kaplan & Norton, 2008) that accurate following of the right processes and procedures are instrumental in measuring the financial perspective of an organisation.

Table 5.5 further indicates that measuring item PPS4 (*Customer feedback is key to our performance appraisal systems*) had significant correlation with PPS1 at $p < 0.05$ and with PPS2 and PPS3 at $p < 0.01$ respectively. As all the items showed a good mean and relatively low standard deviation (Table 5.2 and Figure 5.5), PPS5 (*TUT corporate performance indicators are geared towards future corporate performance*) and PPS1 (*TUT adopts processes that address concern of the stakeholders*) showed a very low negative insignificant correlation of -0.004.

The implication of these results is that corporate performance indicators for current and future forecasts are influenced highly by many other factors. Therefore, addressing the concerns of stakeholders alone is not enough to achieve improvement of the financial perspective. These results are in agreement with what Tuomela (2005: 295) suggested that in order to realise financial improvement, organisations need to consider both financial and non-financial indicators. It implies that stakeholders are crucial for financial indicators; while there are other factors that influence the general improvement of the financial perspectives and these should equally be addressed.

5.4.4 Correlation of the Intellectual Capital-Strategic (ICS) Construct Items

Table 5.6: Pearson Correlation Coefficients for the ICS Construct Items

Correlations						
		ICS 1	ICS 2	ICS 3	ICS 4	ICS 5
ICS 1	Pearson	1				
	Correlation					
	Sig. (2-tailed)					
	N	42				
ICS 2	Pearson	-.161	1			
	Correlation					
	Sig. (2-tailed)	.309				
	N	42	42			
ICS 3	Pearson	-.100	.601**	1		
	Correlation					
	Sig. (2-tailed)	.530	.000			
	N	42	42	42		
ICS 4	Pearson	-.100	.601**	1.000**	1	
	Correlation					
	Sig. (2-tailed)	.530	.000	.000		
	N	42	42	42	42	
ICS 5	Pearson	.229	-.341*	-.286	-.286	1
	Correlation					
	Sig. (2-tailed)	.144	.027	.066	.066	
	N	42	42	42	42	42

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

For the intellectual capital-strategic construct (ICS), measuring item ICS3 and ICS4 exhibited significant correlation at $p < 0.01$. ICS3 had a significant positive correlation with ICS2 whereas ICS4 significantly correlated with ICS2 and ICS3. However, like the descriptive analysis results, measuring item ICS1 (*Intellectual capital is TUT's main source of profitability*) did not have any significant correlation with any other measuring item.

5.4.5 Correlation of the Value Creation-Strategic (VCS) Construct Items

This construct exhibited no significant correlation among its measuring item as illustrated in Table 5.7. With VCS4 and VC2 showing a negative correlation coefficient of -0.206.

Table 5.7: Pearson Correlation Coefficients for the VCS Construct Items

Correlations					
		VCS 1	VCS 2	VCS 3	VCS 4
VCS 1	Pearson	1			
	Correlation				
	Sig. (2-tailed)				
VCS 2	Pearson		1		
	Correlation				
	Sig. (2-tailed)				
VCS 3	Pearson			1	
	Correlation				
	Sig. (2-tailed)				
VCS 4	Pearson				1
	Correlation				
	Sig. (2-tailed)				

5.4.6 Correlation of the Value Creation-Strategic (VCS) Construct Items

Only one measuring item for this construct CCS4 was significantly correlated with CCS1 and CCS2 at $p < 0.01$ and $p < 0.05$ respectively. This is as illustrated in Table 5.8.

Table 5.8 Pearson Correlation Coefficients for the CCS Construct Items

		Correlations						
		CCS 1	CCS 2	CCS 3	CCS 4	CCS 5	CCS 6	CCS 7
CCS 1	Pearson Correlation	1						
	Sig. (2-tailed)							
	N	42						
CCS 2	Pearson Correlation	.022	1					
	Sig. (2-tailed)	.891						
	N	42	42					
CCS 3	Pearson Correlation	.062	.245	1				
	Sig. (2-tailed)	.698	.117					
	N	42	42	42				
CCS 4	Pearson Correlation	.678**	.321*	.170	1			
	Sig. (2-tailed)	.000	.038	.282				
	N	42	42	42	42			
CCS 5	Pearson Correlation	-.126	.000	.104	-.130	1		
	Sig. (2-tailed)	.428	1.000	.512	.413			
	N	42	42	42	42	42		
CCS 6	Pearson Correlation	-.177	.153	-.012	-.079	-.038	1	
	Sig. (2-tailed)	.263	.334	.942	.617	.810		
	N	42	42	42	42	42	42	
CCS 7	Pearson Correlation	.062	.193	.047	.143	-.244	.052	1
	Sig. (2-tailed)	.695	.221	.768	.365	.119	.744	
	N	42	42	42	42	42	42	42

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

5.4.7 Correlation between Constructs

Corporate and conscience-strategic (CCS) construct was the most significantly correlated construct. It had a significant correlation of 0.325 at $p < 0.05$ with value creation-strategic construct (VCS). It also exhibited correlation coefficients of .454, 0.463, and 0.598 at $p < 0.01$ with stakeholder, practices and process and intellectual capital-strategic (SS, PPS, ICS) constructs respectively.

Similarly, the intellectual capital-strategic (ICS) construct was correlated significantly with other constructs. It was significantly correlated with the stakeholders-strategic (SS) construct with a coefficient of 0.350 at $p < 0.05$ and with values 0.396 and 0.490 at $p < 0.01$ with the relationship and culture, and practice and process strategic-constructs respectively. Lastly, the value creation-strategic construct was significantly correlated with SS at $p < 0.01$ with a correlation coefficient of 0.499. Table 5.9 demonstrates the correlation coefficients for each construct.

Table 5.9 Pearson Correlation Coefficients Constructs

		Correlations					
		RCS	SS	PPS	ICS	VCS	CCS
RCS	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	42					
SS	Pearson Correlation	.133	1				
	Sig. (2-tailed)	.400					
	N	42	42				
PPS	Pearson Correlation	.161	.160	1			
	Sig. (2-tailed)	.309	.312				
	N	42	42	42			
ICS	Pearson Correlation	.396**	.350*	.490**	1		
	Sig. (2-tailed)	.009	.023	.001			
	N	42	42	42	42		
VCS	Pearson Correlation	.075	.499**	.181	.205	1	
	Sig. (2-tailed)	.636	.001	.252	.194		
	N	42	42	42	42	42	
CCS	Pearson Correlation	.259	.454**	.463**	.598**	.325*	1
	Sig. (2-tailed)	.098	.003	.002	.000	.036	
	N	42	42	42	42	42	42

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

5.5 Testing the Hypotheses

Hypothesis testing contributes to deciding whether the suggested effects actually occurred, if the given treatments have effects, if the conceptual framework's constructs differ from each other, and whether one construct predicts the other. This study suggested six hypotheses that were discussed in section 4.2.1 and demonstrated in Figure 4.1. Table 5.10 shows the extracts of the results of the tested hypotheses showing their significance at $p < 0.05$ and $p < 0.01$ respectively.

Table 5.10 Testing the Hypotheses

Construct	Suggested Hypothesis	Correlation	Sig. p-value	Action
Relationships and culture strategy (RCS)	H1: Improving the corporate relationship and culture between TUT and its stakeholders will positively improve the financial perspective of Polokwane campus	0.598**	0.004	Supported
Stakeholder's strategy (SS)	H2: Strong emphasis on TUT's stakeholders will have a positive influence on the financial perspective of Polokwane campus	0.365*	0.033	Partially Supported
Processes and practices strategy (PPS)	H3: Improving the internal business processes and practices of TUT will positively improve the financial perspective of Polokwane Campus	0.646**	0.001	Supported
Intellectual capital strategy (ICS)	H4: Intellectual capital of TUT positively influences the financial perspective of Polokwane campus	0.461*	0.021	Partially Supported
Value creation strategy (VCS)	H5: Maximising value creation within TUT has a positive influence on financial perspective of Polokwane campus	0.671**	0.000	Supported
Corporate conscience strategy (CCS)	H6: Appropriate allocation of TUT's wealth value to different stakeholders basing on equitable and ethical aspects will improve the financial perspective of Polokwane campus	0.401*	0.014	Partially Supported

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Results of Table 5.10 indicated that some hypotheses (H1, H3 and H5) were fully supported and others (H2, H4, H6) were partially supported. These results showed consistence with earlier obtained results in both descriptive analysis and construct correlation. Some items that were suggested to measure some constructs either were found lacking, or needed modification to report oppositely. For instance, in SS1

(TUT puts more emphasis on maximisation of shareholder wealth than of others stakeholders wealth) this measuring item was not found correct and it influenced much of this construct. From the literature and the results of the study, this item could be modified to read *the TUT Polokwane campus balances the maximisation of all stakeholder wealth whether they are shareholders or not.*

The intellectual capital strategy constructs had its items ICS1 (*Intellectual capital is TUT's main source of profitability*) and ICS2 (*Emphasis on human capital development improves TUT's corporate performance*). Both of these items performed poorly in all forms of analysis. However, as Tuomela, (2005: 297) suggested, that intellectual capital might be a source of profitability, but may not be the major source of profits in the university environment. These shortcomings might have attributed to the partial support of the hypothesis.

Construct six had two of its measuring items CCS2 (*TUT wealth is allocated to each stakeholder based on their relative contributions towards the overall performance*) and CCS6 (*Management and employees at TUT take direct responsibility for social problems that they cause*) performing poorly in all the previous analyses. Despite this, other constructs performed well in the same analysis. This might have attributed to the split significance causing partial support of the hypothesis testing this construct.

5.6 Multiple Regression Analysis

Having found that there existed correlations between individual constructs, multiple regressions were then carried out to determine the interdependency between these constructs. This was intended to regress a number of metrics and non-metrics with one another. Table 5.11 displays the results obtained from this process reported together with the variance inflation factor (VIF) to report on the multi-collinearity diagnostics as illustrated in Table 5.11.

Table 5.11 Multiple Regression and Variance Inflation Factor

Model	Un-standardised Coefficients		Standardised Coefficients Beta	t	Sig. p	Collinearity Statistics	
	B	Std. Error				Tolerance	VIF
Constant	-23.076	3.521		-7.611	.000		
RCS	.531	.157	.396	3.391	.002	.264	3.788
SS	.406	.135	.304	3.052	.024	.373	2.681
PPS	1.296	.247	.404	5.153	.000	.566	1.767
ICS	1.073	.232	.338	4.666	.010	.632	1.582
VCS	1.255	.165	.778	7.581	.000	.325	3.076
CCS	.162	.123	.136	2.472	.041	.366	2.732

Table 5.11 shows that all values of the variance inflation factors (VIF) are within the acceptable range as a value of $VIF > 10$ could cause more concerns. The overall analysis indicates that the suggested constructs for financial perspective meet the acceptable range from the three analyses carried out. This implies that the results obtained are sufficient to make deductions for the development of the BSC to be used by the TUT Polokwane campus.

5.7 Summary

This chapter presented results of the findings from the study. The chapter commenced with an analysis of the biographical data of the respondents, and showed that the reported biographical data could influence the answers given by the participants when answering the questionnaires' items. The chapter also provided the descriptive analysis that analysed the answers of the individual measuring item for each construct. Furthermore, the chapter reported on the results of the bivariate analysis by clearly indicating how each construct performed together with its measuring items. Furthermore, this chapter discussed results obtained by testing the suggested hypotheses of the study. From the analysis, the chapter discussed why some hypotheses were partially supported while others were fully supported. Finally, results for multiple regressions were reported together with the VIF that is used to detect multi-collinearity.

CHAPTER 6: DISCUSSION, INTERPRETATION, CONCLUSION AND RECOMMENDATION

Research is about finding out what you are going to do when you cannot keep on doing what you are doing now. (Charles Kettering, 1876 - 1958)

6.1 Introduction

This chapter discusses the interpretation of the obtained results of this study. The discussion of this chapter details the theoretical and practical application of the obtained results from the testing of the hypotheses, to the financial perspective of the TUT Polokwane campus. The chapter also discusses the findings in relation to the set objectives of the study, and how they were achieved.

The chapter is organised as follows: it starts by providing an overview of the study by summarising each chapter. The next section discusses the obtained results and the implications of the outcomes of the tested hypotheses. This is followed by the evaluation of the study in terms of achieving the set objectives. The contributions of the study to the financial management body of knowledge are then discussed and finally, the chapter concludes by discussing the limitations to the research and the possible directions for future research.

6.2 Overview of the Study

This section recapitulates the overall study by providing a brief summary of each chapter. The chapters are revisited and summarised in their sequential order.

Chapter one introduced the study by providing a background of financial measurement systems and the BSC. The problem that was identified and subsequently resulted in the study was addressed and the objectives that needed to be achieved in order to solve the identified problem were outlined.

The major objective of this study was to use the BSC to improve the financial perspective of the TUT Polokwane campus. The scope and research coverage were then discussed and the importance and benefits of the study provided.

In Chapter two, literature relating to performance and financial measurement systems was discussed. The literature discussed in this chapter was twofold. First, the chapter discussed the literature related to business performance measurement in which performance measure driving factors and attributes were detailed. It also discussed how performance measure could be used as a mechanism for service delivery. The second part of the literature discussed financial measurement systems and financial measurement frameworks that have been used in other studies. The chapter concluded by ascertaining the limitations of the current financial measurement systems being used by many organisations.

Chapter three discussed the BSC methodology. The chapter discussed the use of the BSC as a tool for financial improvement. It also contributed the theoretical foundations and conceptual frameworks necessary to understand the use of the BSC. Finally, the use of BSC in institutions of learning was discussed.

The core of Chapter four was to discuss the research design and methodology that were followed in the study. The methods that were used to collect the data were discussed, as well as with the sampling techniques that were employed to select the participants of the study. Finally, the methods used to analyse the collected data were discussed and the steps that were taken to ensure the quality of standards of the measuring instrument used and the data collected.

In Chapter five, the results obtained from the collected data were presented. First, the participants' demographics were presented. That was followed by the descriptive analysis of the constructs and their measuring items. Secondly, results obtained from the bivariate analysis in which the correlation between measuring items of the constructs and between constructs were given. The chapter also presented the results obtained by testing the suggested hypotheses of the study. Finally, multiple regressions were used to determine the interdependency between the constructs.

Collinearity effects were tested using the tolerance ratios and the variance inflation factor.

This last, current chapter presents the discussion and interpretation of the research findings. Results that were obtained in Chapter five are discussed and their implication to the improvement of the financial perspective of the TUT Polokwane campus are provided based on the modified BSC. The chapter evaluates the whole research process by testing whether the set objectives were achieved. Finally, the chapter discusses the modified BSC based on the set constructs that could be used to improve the financial perspective of the TUT Polokwane campus.

6.3 Discussion and Implication of the Results

This study's major objective was to use the BSC to improve the financial perspective of an organisation taking a case study of the TUT Polokwane campus. To achieve this objective, the study set the following specific objectives to guide the flow of the research process.

1. To establish the gaps that exist between the previous Technikons in South Africa and the TUT Polokwane campus in terms of customer satisfaction.
2. To modify the BSC for a non-profit making organisation and come up with one that could be used to readdress the TUT financial perspective.

The study's first task was to review related literature, documentation and organisational reports in order to establish those gaps that exist between other former technikons currently known as Universities of Technology and the TUT Polokwane campus. From this extensive literature and documentation reviews, it was established that the major gap the TUT Polokwane campus has in the poor retention of stakeholders, including the students and high calibre academic staff. The review also indicated that the poor financial standing of the campus has led to its future being placed in doubt by both the stakeholders and management. The study established that these uncertainties were the core for the unstable financial performance of the campus.

To address the issues of financial performance and measures, the study also reviewed literature relating to these concepts in general and how a BSC could be used as a remedy. In the reviews of these concepts, and from other previous studies concluded by Radnor & Lovell, (2003) and Khomba, (2011) this study developed six strategies based on six perspectives that could be used to improve the financial perspective of the TUT Polokwane campus.

The first strategy was the observation of the relationship and culture that existed between the TUT Polokwane campus and its stakeholders. This strategy intended to examine the organisational values, norms, or philosophies that govern the behaviour of people to improve the organisation. The second strategy examined how the stakeholders for this campus are perceived by both the staff and management. The third was to review the internal business processes and practices of the campus in terms of the economy, efficiency, effectiveness, and ethicality. Fourth, was the intellectual capital strategy to assess how the campus staff and management value the collective knowledge of individuals within the entire TUT Polokwane campus. Fifth was the value creation that assessed the perspectives that would be considered critical towards the internal operations for maximisation of the organisational value (wealth). The last strategy was to examine the corporate conscience. This intended to assess the allocation of organisational value (wealth) to different stakeholders based on equitable and ethical dimensions.

These strategies were formulated as constructs and out of these constructs, six relationships were hypothesised. The suggested hypotheses were tested and the results are reported in Table 5.10. The testing of the hypotheses was a statistical approach used to confirm the importance and the explanatory power of the role played by each strategy in improving the financial perspective of the TUT Polokwane campus.

6.3.1 Discussion and Implication in Relation to the Hypotheses

The implication discussed in this section is based on the results obtained in Table 5.10. These results are further discussed in comparison to what was obtained from the descriptive (univariate) analysis discussed in section 5.3.

6.3.1.1 Hypothesis Derived from Relationships and Culture-Strategic Construct

The first hypothesis tested was based on this construct:

H1: Improving the corporate relationship and culture between TUT and its stakeholders will positively improve the financial perspective of the Polokwane campus. This hypothesis was supported.

The results of this hypothesis suggest that culture within an organisation plays a large role in creating a cheerful and vigorous environment in which to work. Consequently, management should ensure that it promotes the organisational ethos to all its stakeholders, whose acceptance of it will positively influence the organisation's performance. Good interaction between management and its stakeholders ensures good contribution, communication and collaboration, job satisfaction and it helps in achieving the organisational goals. This in turn is a vital factor in improving the financial perspective.

As Tsai (2011) noted, collaborative relationships between management and stakeholders improves an organisation's competitive advantage and assists in achieving superior results. He further asserted that it is beneficial for an organisation to reduce the overall number of stakeholders in order to concentrate and focus on closer relationships with crucial stakeholders. This fact was demonstrated from the results that were obtained from this study. All measuring items of the corporate relationship and culture-strategic construct showed a good measure. Their influences were all significant in improving the financial perspective of the TUT Polokwane campus. Therefore, in developing the BSC for the TUT Polokwane campus the following items should be included:-

1. The university should strive to recognise the interdependence of relationships of its stakeholders.
2. Top management should endeavour to listen to and frequently communicate with the stakeholders regarding their concerns and contributions.
3. The university's financial reports should be constructed towards meeting interests of its external stakeholders.
4. The university's external financial reporting system should take into account its social obligations towards local communities.
5. The university's external financial reporting system should integrate economic, social, and environmental dimensions (triple bottom line reporting).
6. The university's financial statements should be prepared based on the generally accepted accounting principles (GAAP).
7. The university's financial statements are verified by the appointed external auditors for external reporting.
8. The university should treat employees as the most valuable asset of the organisation.
9. The university should be committed in making decisions while putting the customer's perspective in mind.

6.3.1.2 Hypothesis Due to the Stakeholders-Strategic Construct

The study also hypothesised a positive influence between the role played by the stakeholders and the improvement of the financial perspective.

H2: Strong emphasis on TUT's stakeholders will have a positive influence on the financial perspective of the Polokwane campus. This hypothesis was partially supported.

The results of this study indicated that as the university's shareholders have legitimate interests in the campus due to their capital investments, it is paramount that the university treats all stakeholders equally. Acknowledgement should be given to different stakeholders and cognisance should be taken of how they contribute differently to the improvement of the campus's financial perspective due to the numerous roles they play. This explains why measuring item SS1 (TUT puts more emphasis on maximisation of shareholders wealth than of others stakeholders wealth) was not supported leading to the hypothesis being partially supported.

The modification of the BSC should have SS1 modified to read: TUT should equally emphasise the maximisation of all stakeholders' wealth whether they are shareholders or not.

Therefore, the items that should be included under this perspective are:

1. The university should emphasise the maximisation of all stakeholders' wealth equally whether they are shareholders or not.
2. The university should acknowledge that its' customers comprise the most important element of its business.
3. The university should consider government contributions as foundational for its business operations.
4. The university should run on the premise that community care is paramount.
5. The university should acknowledge the role played by debt provisions from its financiers as a core for its operations.

6.3.1.3 Hypothesis Due to the Practices and Processes-Strategic Construct

The third relationship this study hypothesised was that between the internal business processes and practices and the financial perspective of the university.

H3: Improving the internal business processes and practices of TUT positively improve the financial perspective of the Polokwane Campus. This hypothesis was supported.

These results are in agreement with the findings of Kaplan & Norton, (1996; 2008) who recommended that observing the internal business processes is essential in enabling an organisation to deliver value propositions. They further suggested that it would help the organisation attract and retain customers in the prosperous market segments and bring satisfaction to shareholders by increasing their financial expectations.

From the results, all the suggested items of this construct were used in the development of the TUT Polokwane campus's BSC. These are:

1. The university should adopt processes that address the concerns of its stakeholders.
2. The university should use benchmarking to continuously improve its business processes.
3. The university should be in a position to objectively measure the social impact of its operations.
4. The university should use the customers' feedback as a crucial part of its performance appraisal systems.
5. The university should ensure that corporate performance indicators are geared towards future corporate performance.

6.3.1.4 The Intellectual Capital-Strategic Construct Hypothesis

The fourth hypothesis was derived from the intellectual capital-strategic construct.

H4: Intellectual capital of TUT positively influences the financial perspective of the Polokwane campus. This hypothesis was partially supported.

Results indicated that as intellectual capital is important for the improvement of an organisation's financial perspective, the TUT Polokwane campus is not the major source of profitability. This might be looked at from two different perspectives. First as discussed in the literature, this campus lacks retention of high calibre academic staff who would be involved in the business research to boost the campus' external funding. Next, the number of staff involved in active research is small; therefore, their contribution might be insignificant.

Another notable point is that this study collected data from the TUT Polokwane campus only. The TUT Polokwane campus is small and likewise the proportion of staff is small. Review of the university's documentation indicated that, at the time of this research, the campus had one staff member with a Doctorate and only a few with Masters' degrees. This could be another cause for the partial support for this construct as two of its items could not be applicable to this campus. Therefore, development of the modified BSC would only include four measuring items that were found more appropriate and applicable to this campus. Other items will be considered in the recommendations that this study will make.

The items to be included are:

1. The university should endeavour to enhance human capital development to improve its corporate performance.
2. The university should use knowledge management systems to promote innovation.
3. The university should promote knowledge of the local culture to boost marketing through customer satisfaction.
4. The university should continue to invest in supporting employee knowledge.

6.3.1.5 Hypothesis Derived from the Value Creation-Strategic Construct

The hypothesis derived from this construct was supported.

H5: Maximising value creation within TUT has a positive influence on the financial perspective of the Polokwane campus.

The results of this study supported the argument that value creation is the primary objective of any business entity (Perla, 2003; Kaplan & Norton, 2008). In the case of the TUT Polokwane campus, creating value for students and other stakeholders will help in selling the services of the university, which would attract potential students and high calibre staff. Conversely, creating value for shareholders like government through the research fund ensures the future availability of investment capital to fund operations. When this is done, the university will realise more revenue that exceeds its expenses. However, results indicated that not all of the TUT Polokwane campus' profitability successes are as a result of inputs from its various stakeholders. Items to be included in the development of the BSC will therefore include:

1. The university should increase the inputs from the various stakeholders.
2. In order to remain competitive, the university should improve its customer-oriented activities.
3. The university should carefully manage its internal business processes to increase its profitability.
4. The university should leverage on the social values of the local communities to improve its profitability.

6.3.1.6 Hypothesis Derived from the Corporate Conscience-Strategic Construct

The hypothesis that was derived from this construct was partially supported.

H6: Appropriate allocation of TUT's wealth value to different stakeholders based on equitable and ethical aspects will improve the financial perspective of the Polokwane campus.

Results of the study suggested that ethics is a significant component of today's business. Any organisation should comply and work within the set standards and procedures that may include laws, regulations, company policies and procedures,

and ethical standards or code of conduct. The IoDSA (IoDSA, 2009: 49) suggested that a lack of these standards may be a source of temptation for employees and management to commit unethical actions, creating room for misappropriation of funds. These results are also an indication that organisations should set up whistle-blowing procedures to allow stakeholders to reveal any ethically questionable situations openly or anonymously to prepare for an internal audit.

However, results exposed that this construct was partially accepted due to some of its measuring items CCS6 (*management and staff at TUT takes direct responsibility for social problems that they cause*) being rejected and CCS2 (*TUT's organisational wealth is allocated to each stakeholder based on their relative contributions towards the overall performance*) being found not applicable. These two items were modified to fit the developing of the BSC for TUT's Polokwane campus.

The items included were as follows:

1. The university should recognise the interdependence of efforts and rewards among its stakeholders.
2. The university should allocate organisational wealth to all stakeholders equally regardless of their relative contributions towards the overall performance.
3. The university should ensure that all stakeholders receive sufficient benefits to have continued collaboration within the university as an organisation.
4. Suppliers should be paid fairly by offering competitive prices in the industry.
5. The university should be involved in financially supporting educational projects for its future business operations.
6. The university should contribute substantially to the overall welfare of the society.

6.3.2 Discussion and Implication in Relation to the Research Objectives

The aim of this study was to use the BSC to improve the financial perspective of an organisation taking a case study of the TUT Polokwane campus. Two specific objectives were set to achieve this primary objective, these were

The specific objectives of this study were:

1. *To establish the gaps that exist between the previous Teknikons in South Africa and the TUT Polokwane campus in terms of customer satisfaction*
2. *To modify the BSC for a non-profit making organisation and come up with one that could be used to readdress the TUT financial perspective.*

6.3.2.1 Discussion and Implication in Relation to the First Research Objective

To establish the gaps that exist between the previous Teknikons in South Africa and the TUT Polokwane campus in terms of customer satisfaction

To achieve this objective, the study reviewed organisational documentations that included financial reports, administrative documents such as annual reports, project proposals, progress reports, and baseline information, magazines, project findings and other related studies conducted along this dimension at other current universities of technology. The review of this related literature helped this study to establish limitations and challenges that need to be overcome by the TUT Polokwane campus in order to improve its financial perspective.

The review of these materials and literature aimed at providing basic background material on the BSC in relation to a university and other institutions of learning. Through these reviews, a holistic view of the BSC that could be used as a reference point in improving the financial perspective of the TUT Polokwane campus was found. Furthermore, the reviews were also fundamental in the development of a sound strategic foundation from a multidimensional perspective. It is from this review that this study based its conceptual framework on Figure 4.1 discussed in section

4.2.2. The hypothesised relationships for the framework were tested and discussed in 6.3.1 of this chapter.

6.3.2.2 *Discussion and Implication in Relation to Research Objective Two*

To modify the BSC for a non-profit making organisation and come up with one that could be used to readdress the TUT financial perspective

To achieve this objective, the constructs suggested in the conceptual framework (Figure 4.1) were based on designing a measuring instrument (questionnaire) used for the study. Each construct's indicators or attributes were determined and used as the question items in the measuring instrument. The measuring instrument was then tested to determine the applicability of the question items in improving the financial perspective of the TUT Polokwane campus.

The study sampled only those personnel at the campus that are responsible for financial management and decision-making. These included the staff in accounting and finance departments, the human resource department and the members of the EXCO. For the finance and accounting and human resource departments, both operational and managerial staff members were involved. The sampling process aimed at increasing the validity of the answers obtained from the survey to actually find the questions applicable to the TUT Polokwane campus.

On analysing the measuring instrument as discussed in Chapter 5, the measuring items that could not apply, were modified as illustrated in section 6.3.1 of this chapter. Section 6.3.1 also provided reasons for modifications of each measuring item that were to be done. The developed BSC is discussed in the next section of this chapter.

After operationalising the constructs and testing the hypotheses, results indicated what the new framework should be (Figure 6.1) to improve the financial perspective of the TUT Polokwane campus.

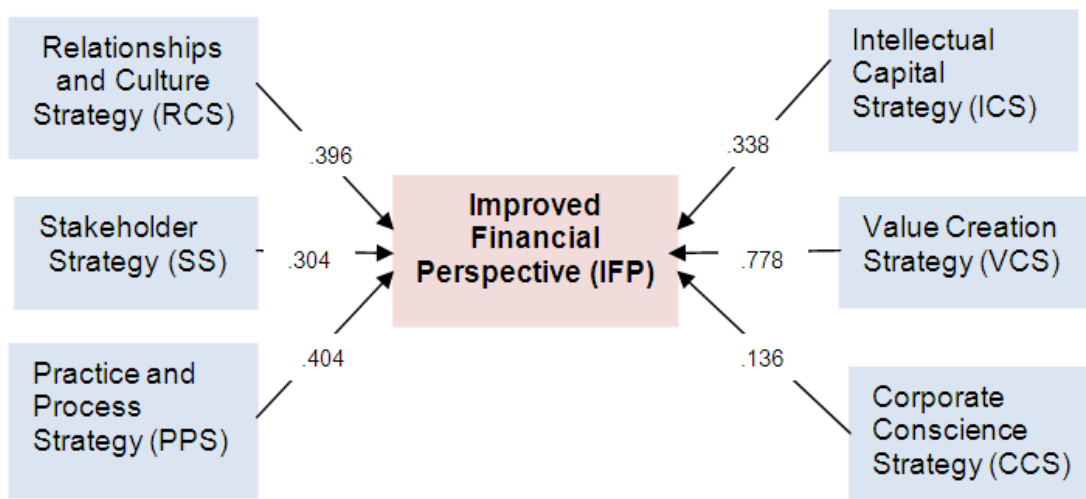


Figure 6.1: Operationalized Framework for TUT Financial Improvement

From the operationalised framework in Figure 6.1 and from the discussion made in section 6.3.1 a modified BSC needed for the improvement of the TUT Polokwane campus financial perspective was developed as discussed in the next section of this chapter.

6.3.3 Discussion and Implication in Relation to Major Research Objectives

Having achieved the specific objectives, the study used information to construe a means of achieving the major objective. The major objective was to use the BSC concept to improve the financial perspective of the TUT Polokwane campus. To achieve this objective, the study had to transform the six constructs into the four strategic objectives of the BSC (Kaplan & Norton, 2001: 138).

Unlike many other non-profit and government organisations, universities have the students paying tuition and then receiving the services. Alternatively, donors or government pay for their services through grants and subsidies. It is also important to note that, much of the funding for the TUT Polokwane campus, like many other universities, is solicited from government and other donors. This difference made both the donors (shareholders) and client (stakeholder) perspectives to be higher in hierarchy than the other perspectives. Similarly, Kaplan & Norton (2001: 135)

emphasised that, service oriented organisations such as universities have a long-term objective of achieving its mission, vision and maintaining its values. Therefore, in developing the BSC for the TUT Polokwane campus, these three aspects were placed at the top of the BSC, indicating priority.

Also taken into consideration was that a large number of respondents (64.3%) indicated that they were not aware of what a BSC is, whereas an overwhelming majority (76.2%) had never used it. Thus, it was envisaged that there could be challenges of acceptance when implementing the BSC. This fact necessitated the need to include the mission and the vision of TUT. Similarly, Kaplan & Norton (2001: 134) supported by Radnor & Lovell, (2003:183) emphasised that, for non-government organisations, modification of initial BSC perspectives (Kaplan & Norton, 1996) is required to suit the requirements and objectives of the organisation. Likewise, the development of the TUT Polokwane campus BSC followed the procedural framework of the BSC for non-profit organisation (Kaplan & Norton, 2001:135) as illustrated in Figure 3.1 of this dissertation.

6.3.3.1 Transformation and Regrouping of the Construct

Using the framework for the BSC for non-profit organisation (Kaplan & Norton 2001) the following were put into consideration:

Mission: The TUT mission is to contribute innovatively to the socio-economic development of South Africa by offering a portfolio of relevant, recognised and career-focused programmes; producing well-rounded graduates who are attuned to the needs of the economy; being a research hub responsive to the challenges of the continent; acting as an incubator for postgraduate study in clearly defined areas of strength; generating, integrating and applying knowledge to stimulate socio-economic development; partnering communities in sustainable development; and being student-centred and quality-driven in everything it does.

Vision: To be a quality-driven university of technology at the cutting edge of innovation.

Major objective of the study: Improve financial perspective

The four perspectives were transformed as follows:

1. *If we are successful, how will we look to our **financial** supporters?* This perspective was represented by the value creation-strategic construct and the intellectual capital-strategic constructs.
2. *To achieve our vision, how do we want our **stakeholders** to view us?* This perspective had a direct representation of the stakeholders-strategic construct.
3. *To satisfy our customers, financial supporters, and mission, what **internal business process** must we improve?* This perspective was represented by the practices and process-strategic construct and the corporate conscience-strategic construct.
4. *To achieve our vision, how must our workforce learn, communicate, and work together?* This perspective was transformed as the relationship and culture-strategic construct.

6.3.3.2 *Balanced Scorecard for the TUT Polokwane Campus*

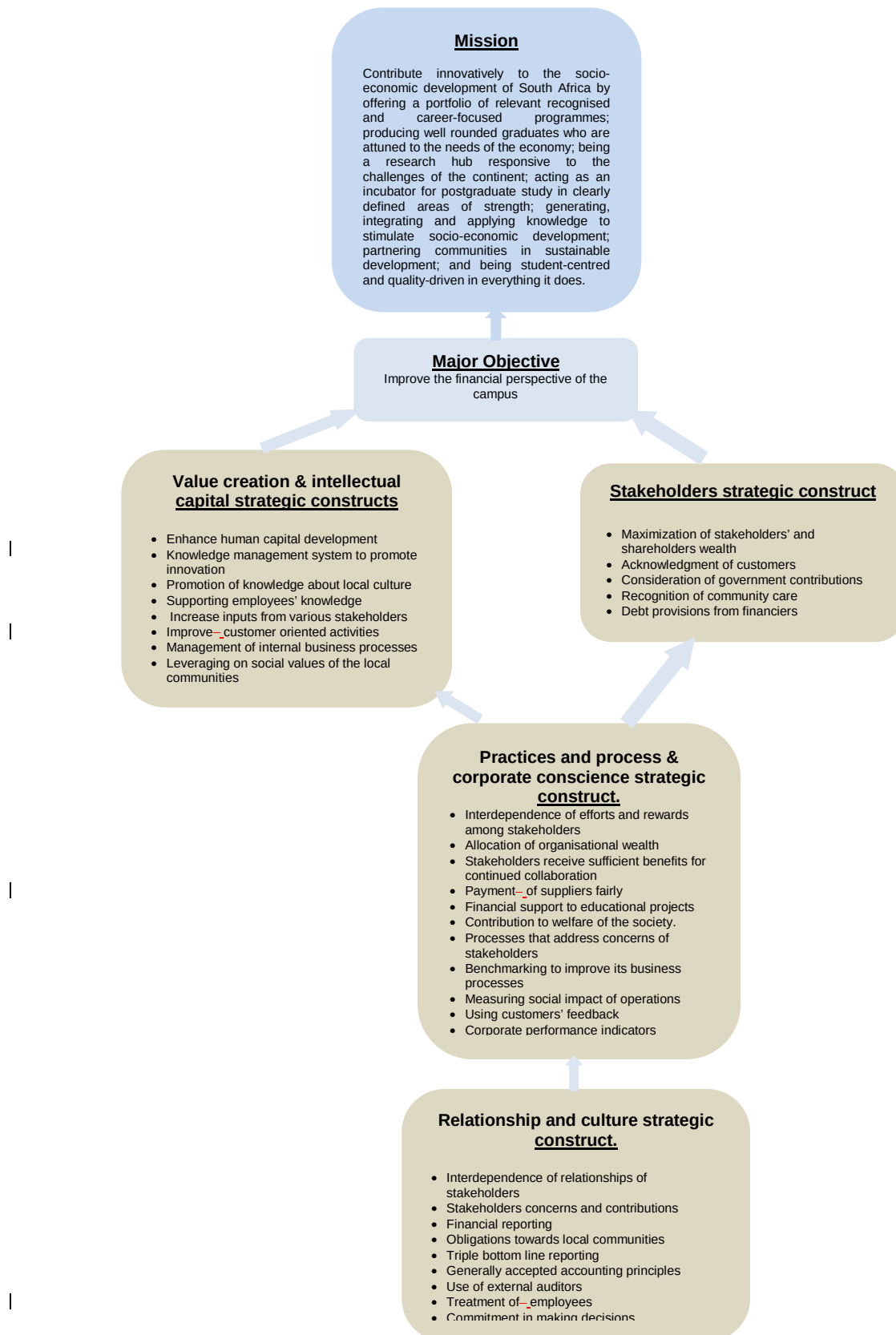


Figure 6.2 Modified BSC for Financial Improvement of the TUT Polokwane Campus

6.4 Research Contribution

This section discusses the implications of the findings to practice, theory and methodology, and how these implications contribute to the financial management body of knowledge.

6.4.1 *Contribution to Practice and Management*

Before the final modified BSC for the TUT Polokwane campus, this study went through systematic approaches and methods to achieve the study objective. The systematic approach produced a framework based on empirical evidence. The modified BSC is generic enough to inform financial improvement not only for the TUT Polokwane campus but also for other Universities of Technology. Therefore, it will benefit University of Technology managers when used as a cornerstone in the daily running of their business. By doing so, it will help each member within the universities to understand the strategies and their role in executing them.

Further still, the BSC developed as a result of analysis of data collected from respondents that included line managers of TUT. This involvement will ensure that the management accept the developed BSC and be part of its implementation process. As a result of this ownership, management will be able to motivate the employees to achieve goal congruence, rather than using it just as a measuring tool for employee performance. This will in turn account for stakeholder and employee satisfaction therefore realising the overall university mission.

6.4.2 *Theoretical and Methodological Contribution*

This study used both secondary and primary data to construe attributes of the constructs used in developing the BSC. The collected data and the developing process ensured alignment between developments in the BSC and theoretical aspects of the control and management process. In addition, the approach used to create a framework, provided a modern concept about improved BSC development processes. This approach will be used by other researchers as part of a literature

review for further studies. This study will contribute to the financial management body of knowledge.

Methodologically, this study used both univariate and bivariate analysis. Univariate analysis was used in exploring each variable in a data set separately by looking at the range and the central tendency of the values. In this case, means standard deviations were used to analyse how participants were answering the questionnaire items. However, bivariate analysis was used to show the relationships and interdependencies among the constructs. These analysis techniques helped to demonstrate the predicting power for each construct in the framework. This is a good predicting method, though rarely used in financial management. Therefore, the study contributed to the methodological approaches used in financial management studies.

6.5 Limitations and Recommendations of the Study

Due to time constraint, this study used a cross-sectional survey where data was collected in a single point of time. However, the researcher believes that because the dynamics of the business environment and evolution in technology, people's minds and perception change. To cater for such changes should they exist, a longitudinal survey would be more appropriate for use in data collection. Therefore, this study recommends that this BSC needs to be constantly reconceptualised to reflect developments outside the current framework. These changes could include impacts from changes of technology and volatile forces like new universities in the area. Further, stakeholders' perceptions and demands could change with changes in the environment, thereby necessitating change in strategies.

This study was limited on the development of the BSC to improve the financial perspective of the TUT Polokwane campus. However, descriptive analysis indicated that 76.2% of the respondents had never used BSC before while 64.3% were not aware of it. The only remedy this study used was to include the mission and vision of TUT as the overall objective. As a result of the large number of users who are ignorant of the BSC, implementation of the developed BSC may face resistance due to the users' fears of the unknown and change. Therefore, this study recommends

that future work should analyse factors influencing the effective use of the BSC at the TUT Polokwane campus and how these factors could be mitigated.

This study further recommends that, as with any innovation within an organisation, users need to be sensitised and trained. Therefore, this study emphasises the need for training, sensitisation, and involvement of all users in the implementation process. This study further recommends that training of users should be an ongoing process, as the BSC will need to be continuously and regularly amended to fit the changing business environment.

6.6 Conclusion

The increasing use of information technology in business and the advent of the internet have changed the way organisations are doing business. The consumers' increased awareness and demand for better and quality services due to global communication channels have left organisations with no other solution but leverage on innovations to improve service delivery. Many organisations, especially those in developed economies, have responded by developing tools to measure both financial outputs and social value added.

To remain competitive, to have a higher market share, and demonstrate accountability and credibility, organisations have embarked on developing models for performance measurement. However, studies revealed that many of these performance measurement tools focus on external results rather than internal analysis of the organisation. Several studies were conducted to continue to refine the initial BSC model to counterbalance the current challenges. However, the dynamics at which the business environment is changing has been higher than the rate at which the BSC refinements have been done. This has left a large gap especially in developing nations where such studies are limited. Ultimately, the need to bridge this gap has been high; to such an extent that many businesses have lagged behind by using traditional financial performance measures.

This study therefore, developed a BSC to improve the financial perspective of the TUT Polokwane campus. The study was motivated by the fact that the campus has

been operating in a state of uncertainty due to its poor financial performance that has threatened its sustainability and put it at the verge of closure. The study used both secondary and primary data. Secondary data was obtained from document reviews that proved essential in providing financial information not only of TUT but also other Universities of Technology. Alternatively, primary data was collected from staff who on a daily basis deal with the financial matters of the university, including making financial decisions.

Univariate and Bivariate data analysis were done using SPSS version 19.0. Results obtained revealed that there was a need for modification of the BSC indicators that were used in the development of the final BSC model. The study revealed that creation of business value is a leading antecedent in improving the financial perspective of the TUT Polokwane campus, whereas the corporate conscience showed little impact.

This study's results are in agreement with those of other researchers that the BSC approach is vital for improving financial perspective of any organisation. However, the study established that for non-profit organisations the BSC must be redefined and developed in line with organisational goals, vision, and mission. The study made several recommendations. Above all, it emphasised the continuous training of users of the BSC and a regular monitoring of the BSC indicators that are likely to change as the business environment evolves.

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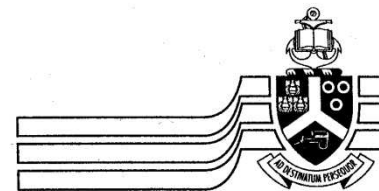
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APPENDICES

Appendix 1: Research Questionnaire

FACULTY OF ECONOMIC AND
MANAGEMENT SCIENCES



University of Pretoria

Dear Participant,

RE: INVITATION TO PARTICIPATE IN ACADEMIC RESEARCH SURVEY

You are invited to participate in this research investigating how a balanced score card could be used to improve the financial perspective of an organisation. This study is in partial fulfilment for the award of a degree of MCom in Financial Management of the University of Pretoria (UP). The research title of this study is:

USING A BALANCED SCORECARD TO IMPROVE THE FINANCIAL PERSPECTIVE OF AN ORGANISATION: A Case Study of Tshwane University of Technology Polokwane campus

Participation in this study is voluntary. If you do not wish to participate, simply discard the questionnaire. All responses will be completely anonymous and will be presented as summaries in the findings. Your name will **NOT** appear anywhere on the survey and is not requested for that case. Completing and returning the questionnaire constitutes your consent to participate and you are kindly appreciated.

It is UP's policy that all research questionnaire complies with the research ethics and integrity standards. The questionnaire is first validated and approved by the research and ethics committee before it is distributed to the respondents and these standards are strictly adhered to. Hence, any information you kindly provide will be treated with maximum confidentiality.

Answering this questionnaire will only take 10-15 minutes of your time. Your corporation is highly appreciated and will contribute to the success of this study. Please feel free to contact me at: muchandigonaak@tut.ac.za or my supervisor: Frans.vermaak@up.ac.za.

Thank you

AK Muchandigona

MCom Research Student

Section A: PARTICIPANTS' DEMOGRAPHICS (Tick the box that corresponds to your option)

1. What is your gender?

Male	Female

2. What is your highest qualification?

National Diploma	BTech	Postgraduate Masters	DTech	Other specify

3. What is your current position

Accounts & Finance (A&F) operational	A&F Managerial	Human resource (HR) operational	HR Managerial	Management (EXCO)

4. For how long have you been working with this institution?

0-2 years	3- 5 years	5 -7years	8-10 years	10+ years

5. What is your overall working experience?

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Thesis under embargo.

0-2 years	3- 5 years	5 -7years	8-10 years	10+ years

6. What is your age group?

21-25 years	26 – 30 years	31-35 years	36-40 years	41+ years

7. Have you ever heard of a balanced scorecard?

Yes	No

8. If your answer in 7 above is Yes, have you ever used a balanced score card?

Yes	No

SECTION B: ASSESSMENT OF CORPORATE SCORECARDS

In this section tick 1 to 5 where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral,

4 = Agree and 5 = Strongly Agree

SECTION B1: THE RELATIONSHIPS AND CULTURE STRATEGIC CONSTRUCT						
<i>This section assesses corporate relationships and culture that exist between your organisation and its stakeholders. Organisational culture refers to organisational values, norms, or philosophies that govern the behaviour of people for organisation's improvements.</i>						
B1.1	TUT recognizes the interdependence of relationships of its stakeholders	1	2	3	4	5
		☐	☐	☐	☐	☐
B1.2	TUT top management listen to and frequently communicate with our stakeholders regarding their concerns and contributions	1	2	3	4	5
		☐	☐	☐	☐	☐
B1.3	TUT's financial reports are constructed towards meeting interests of its external stakeholders	1	2	3	4	5
		☐	☐	☐	☐	☐
B1.4	TUT's external financial reporting system takes into account its social obligations towards local communities	1	2	3	4	5
		☐	☐	☐	☐	☐
B1.5	TUT's external financial reporting system integrates economic, social and environmental dimensions (triple bottom line reporting)	1	2	3	4	5
		☐	☐	☐	☐	☐
B1.6	TUT'S financial statements are prepared based on the generally accepted accounting principles (GAAP)	1	2	3	4	5
		☐	☐	☐	☐	☐
B1.7	TUT's financial statements are verified by the appointed external auditors for external reporting	1	2	3	4	5
		☐	☐	☐	☐	☐
B1.8	TUT is committed in making decisions with the customer's perspective in mind	1	2	3	4	5
		☐	☐	☐	☐	☐
B1.9	TUT treats employees as the most valuable asset of the organisation	1	2	3	4	5
		☐	☐	☐	☐	☐

SECTION B2: THE STAKEHOLDER STRATEGIC CONSTRUCT						
<i>This section assesses stakeholders as perceived by your organisation. Stakeholders are groups of people that have interests or hold stakes in the running of your organisation.</i>						
B2.1	TUT puts more emphasis on maximization of shareholders wealth than of the other stakeholders' wealth	1	2	3	4	5
		☐	☐	☐	☐	☐
B2.2	TUT's customers comprise the most important element of the business	1	2	3	4	5
		☐	☐	☐	☐	☐
B2.3	TUT's operations rely on debt provisions from its financiers	1	2	3	4	5
		☐	☐	☐	☐	☐
B2.4	TUT runs on the premise that community care is paramount	1	2	3	4	5
		☐	☐	☐	☐	☐
B2.5	Government contributions are foundational for TUT's business operations	1	2	3	4	5
		☐	☐	☐	☐	☐

SECTION B3: THE PRACTICES AND PROCESSES STRATEGIC CONSTRUCT

This section assesses internal business processes and practices of your organisation in terms of the economy, efficiency, effectiveness and ethicality. Ethicality refers to organisation morality and rights.

B3.1	TUT adopts processes that address concerns of its stakeholders	1	2	3	4	5
		☐	☐	☐	☐	☐
B3.2	TUT uses benchmarking to continuously improve its business processes	1	2	3	4	5
		☐	☐	☐	☐	☐
B3.3	TUT is able to objectively measure the social impact of its operations	1	2	3	4	5
		☐	☐	☐	☐	☐
B3.4	Customer feedback is key to TUT's performance appraisal systems	1	2	3	4	5
		☐	☐	☐	☐	☐
B3.5	TUT's corporate performance indicators are geared towards future corporate performance	1	2	3	4	5
		☐	☐	☐	☐	☐

SECTION B4: THE INTELLECTUAL CAPITAL STRATEGIC CONSTRUCT

This section assesses the intellectual capital as one of the valuable assets of your organisation. Intellectual capital represents the collective knowledge of individuals in an organisation

B4.1	Intellectual capital is TUT's main source of profitability	1	2	3	4	5
		☐	☐	☐	☐	☐
B4.2	Emphasis on human capital development improves TUT's corporate performance	1	2	3	4	5
		☐	☐	☐	☐	☐
B4.3	Innovation is promoted through TUT's good knowledge management system that it pursues	1	2	3	4	5
		☐	☐	☐	☐	☐
B4.4	Knowledge about local culture promotes marketing through customer satisfaction	1	2	3	4	5
		☐	☐	☐	☐	☐
B4.5	TUT invests heavily in supporting employee knowledge	1	2	3	4	5
		☐	☐	☐	☐	☐

SECTION B5: THE VALUE CREATION STRATEGIC CONSTRUCT

This section assesses perspectives that would be considered critical towards your internal operations for maximisation of organisational value (wealth).

B5.1	TUT's profitability success is a result of inputs from various stakeholders	1	2	3	4	5
		☐	☐	☐	☐	☐
B5.2	TUT is competitive because of its customer oriented activities	1	2	3	4	5
		☐	☐	☐	☐	☐
B5.3	TUT's internal business processes contribute a lot towards organisational profitability	1	2	3	4	5
		☐	☐	☐	☐	☐
B5.4	TUT's profitability is a result of the social values that it gets from local communities	1	2	3	4	5
		☐	☐	☐	☐	☐

SECTION B6: THE CORPORATE CONSCIENCE STRATEGIC CONSTRUCT

This section assesses allocation of organisational value (wealth) to different stakeholders based on equitable and ethical dimensions. Ethics deals with morals and rights of individuals.

B6.1	TUT recognizes the interdependence of efforts and rewards among its stakeholders	1	2	3	4	5
		☐	☐	☐	☐	☐
B6.2	Organisational wealth is allocated to each stakeholder based on their relative contributions towards the overall performance	1	2	3	4	5
		☐	☐	☐	☐	☐
B6.3	All stakeholders receive sufficient benefits to assure their continued	1	2	3	4	5

collaboration with TUT as an organisation		☐	☐	☐	☐	☐
B6.4	TUT pays its suppliers fairly by offering competitive prices in the industry	1	2	3	4	5
B6.5	TUT is involved in financially supporting educational projects for its future business operations	☐	☐	☐	☐	☐
B6.6	TUT takes direct responsibility for social problems that it has caused	1	2	3	4	5
B6.7	TUT contributes substantially to the overall welfare of the society.	☐	☐	☐	☐	☐
SECTION C: OVERALL INFLUENCE OF CONSTRUCTS						
<i>In this section give your overall rating of how best you think each construct as a whole influences the financial perspective of TUT (Where 1= Not important at all, 2 = Less important, 3 = important, 4 very important, 5 = extremely important)</i>						
C1.1	The relationship and culture strategy	1	2	3	4	5
		☐	☐	☐	☐	☐
C1.2	The stakeholder strategy	1	2	3	4	5
		☐	☐	☐	☐	☐
C1.3	The practices and processes strategy	1	2	3	4	5
		☐	☐	☐	☐	☐
C1.4	Intellectual capital strategy	1	2	3	4	5
		☐	☐	☐	☐	☐
C1.5	The value creation Strategy	1	2	3	4	5
		☐	☐	☐	☐	☐
C1.6	The corporate conscience strategy	1	2	3	4	5
		☐	☐	☐	☐	☐

Thank you.