UNIVERSITY OF SOUTHAMPTON

FACULTY OF BUSINESS AND LAW

SCHOOL OF MANAGEMENT

Performance Management in Higher Education: A Grounded Theory Study

by

Seyed Mohammad Javadi

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IN THE NAME OF ALLAH

THIS WORK IS DEDICATED TO THOSE ALL OVER THE WORLD WHO HONESTLY AND TRUTHFULLY WORK HARD TO MAKE THIS WORLD A BETTER PLACE FOR PEOPLE TO LIVE TOGETHER PEACEFULLY & CHEERFULLY.

UNIVERSITY OF SOUTHAMPTON

ABSTRACT

FACULTY OF BUSINESS AND LAW
SCHOOL OF MANAGEMENT

Doctor of Philosophy

PERFORMANCE MANAGEMENT IN HIGHER EDUCATION: A GROUNDED THEORY STUDY

by Seyed Mohammad Javadi

This study seeks to explore and understand the phenomenon of performance management in a university in Iran from perspectives of the university staff's participants. In other words, this research attempts to better understand and acquire empirical knowledge of how a state affiliated university measures, manages and reports its performance, and how its main stakeholders as well as other factors affect the University's overall performance.

By conducting a grounded theory methodology within a qualitative and interpretive research paradigm and through a non-probabilistic purposive sampling, a cross section of fourty four key expert informants at different levels with different functions were sampled.

The empirical part of this research was carried out over a period of two months. In addition, a second field trip was done to discuss initial findings with key interview participants. Data gathered were analysed and interpreted through using a set of coding procedures in grounded theory suggested by Strauss and Corbin (1990, 1998).

Preliminary analysis resulted in an emerging conceptual model entitled "the exigent conformance model" which describes how the stakeholders and regulators triangular relationships constructed their realities and practices which resulted in the university's overall exigent behaviour.

Furthermore, a new theory emerged which uncovers the influencing role of such steering ciphers and drivers that affect the University's functionality, causing "struggling for performance" throughout its activities which have gradually resulted in a "progression-regression performance". The emergent theory (progression-regression performance) helps to explain and support the practices so that the ultimate performance of the university is improved.

The analyses, resulting categories and conclusions have been approached through utilising the unique theoretical lens of New Institutional Sociology (NIS) theory.

This research not only adds to the understanding of a complex phenomenon in a previously untouched context (understanding of what represents performance management practices and stakeholders interactions on the basis of a case university studied in a developing country), but it also contributes to the adoption of new methodology, use of new institutional theory of sociology (NIS), and emergence of the substantive "Progression-Regression Performance" theory.

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DECLARATION OF AUTHORSHIP

I SEYED MOHAMMAD JAVADI declare that the thesis entitled "**Performance Management in Higher Education: A Grounded Theory Study**" and the work presented in the thesis are both my own, and have been done by me as the result of my own original research. I confirm that:

- this work was done wholly or mainly while in candidature for a research degree at this University;
- where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
- where I have consulted the published work of others, this is always clearly attributed;
- where I have quoted from the work of others, the source is always given. With the exception of such questions, this thesis is entirely my own work;
- I have acknowledged all main sources of help;
- where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
- none of this has been published before submission.

Signed: … ……

Date: ……

Presentations and publications

Javadi, **S.M.** (May 2011), "Discovery Hidden Dimensions of the Organisational Performance", 6th Annual PhD Conference, School of Management, University of Southampton, UK.

Javadi, **S.M.** (April 2010), “Strategising and Performancing: An Empirical Investigation of a Case University”, LASS Conference, University of Southampton, UK.

Broad, M.J. and **Javadi, S.M.** (2009) " Modelling a successful performance measurement system", Journal of Business and Economic Review. Institute of Management Sciences, 1, (1), pp. 29-39.

Broad, M. & **Javadi**, **S.M.** (September 2009), “Modelling a Successful Performance Measurement System”, British Academy of Management (BAM) Conference, Brighton, UK.

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It is my everlasting hope that this research will be used to light a shed, in some way, on science advancement.

Abbreviations

BSc	:	Balanced Scorecard
CSF	:	Critical Success Factors
GT	:	Grounded Theory
HE	:	Higher Education
HEI	:	Higher Education Institution
IT	:	Information Technology
KPI	:	Key Performance Indicators
MCS	:	Management Control System
MP	:	Ministry of Petroleum
MSRT	:	Ministry of Science, Research and Technology
NIOC	:	National Iranian Oil Company
NIS	:	New Institutional Sociology (Theory)
OIE	:	Old Institutional Economics (Theory)
PI	:	Performance Indicator
PM	:	Performance Management
PMM	:	Performance Measurement and Management
PMMS	:	Performance Measurement and Management System
PMS	:	Performance Measurement System
PRP	:	Progresision Regression Performance
PUT	:	Petroleum University of Technology

Chapter 1

Introduction

1.1 Introduction

Research in management accounting discipline has received a great attention and increased over the last two decades worldwide. As a part of which, the international management accounting literature has moved forward to address the new issues and challenges raised and to cover new fields such as performance management (Otley, 2001; Zimmerman, 2001).

The current understanding of performance management practices and the consequences of different performance management system designs is limited (Otley, 1999). Developing countries and newly industrialized emerging economies are among those contexts which have not been studied enough yet and need to be more considered. Through an increasing awareness of the real problems regarding performance management issues, research in this area have become relevant to the actual needs of the users and are making real contributions to the understanding development of the performance measurement and management practices especially within the developing countries.

According to Neely et al. (1995, p.80), performance measurement is “the process of quantifying the efficiency and effectiveness of action”, meaning that performance measurement aims to assess how well an organisation has performed or the extent it has achieved its objectives.

It is hoped this study could raise the level of interest and awareness of real issues in an emerging economy, by providing an authoritative overview of the research and progress in this field, so that academics and practitioners in such environment get an in depth understanding of the driving environmental influences and do not just copy of what is done in developed and industrialized countries. It is also hoped that the empirical part and results of this study provide benefits to higher education authorities and regulators, particularly those who are making decisions in higher education institutions.

This research project would also give scholars and relevant authorities in the field, a better and greater understanding of different internal and external variables affecting performance measurement and management mechanisms in the higher education environment of a

developing country. Such information can be used to improve awareness, perceptions, increase attention and ultimately enhance the knowledge in this area.

1.2 Background to the research

Universities are complex institutions which have important roles and social impacts across their environment. Thus, they are becoming under greater scrutiny and pressure to engage with their internal and external stakeholders to address their concerns and expectations and to ensure that they manage and report their performance efficiently and effectively to help to contribute to the society.

Performance management has become an important area within the management accounting literature and has have received a great deal of attention over the last two decades (Fowler, 2008). But, there is little published work on contemporary performance management practices (Chenhall, 2003). Furthermore, not much research on this issue has focussed on higher educational environments although such contexts are crucial settings which undoubtedly play an important role in societies (Chenhall, 2003, Otley, 1999).

Following a detailed review of the existing literature (in management, accounting, business, performance, organisation, society, strategy and education journals and publications), it was revealed that very few studies have been done to empirically investigate and address performance measurement and management practices in higher educational settings in developing countries. In other words, the research in this sector has been mainly in developed countries, indicating that understanding of the above concepts in such sector in developing (non-western) economic, social and political contexts is quite limited.

The phenomenon of performance management in Iran's higher educational institutes has been considered in-depth by only a very few management and/or accounting researchers. The lack of in-depth understanding of performance measurement and management practices in higher education generally, and in a developing country context more specifically, has motivated the researcher to conduct this research. To date, relatively very little is known about performance management as it is lived, perceived and implemented by actors in organisations, especially higher education contexts (universities). It is hoped this study would contribute to debates on how performance measurement and management practices are fulfilled and affected in educational environments. The aim is that the ultimate performance of universities is improved.

1.3 Research aim and objectives

Research aim means what a researcher hopes to understand. The primary focus of any research is to increase the level of knowledge of a particular subject in order to help solve the relevant problem(s) in that field. In this regard, the overall aim of this study is to understand how performance is measured, managed and affected in a higher education institution.

Research objectives refer to those activities that a researcher undertakes. Hence the overall objective of this research is to investigate and theorise how performance measurement and management are practiced, what are the roles of accounting information in this process and what factors affect the overall performance of the case university studied within the higher education context of a developing country. As the outcome of the research, a new theory is developed (Glaser and Strauss, 1967) which supports the practices and explains how such phenomenon is affected by various internal and external factors (such as: structure, funding, influence, governance, stakeholders, accountability, power, politics, culture, trust, commitment, etc.) and how such factors drive the overall performance of the university. In this regard, the four main objectives of this study are:

1- To identify the gaps in the area of performance measurement and management practices that can lead towards improvement in overall performance.
2- To investigate the use of tools, mechanisms or systems in the performance measurement and management practices.
3- To identify the University's stakeholders and investigate their influence.
4- To identify other influencing and environmental variables and factors which affect the overall performance of the University studied.

1.4 Research questions

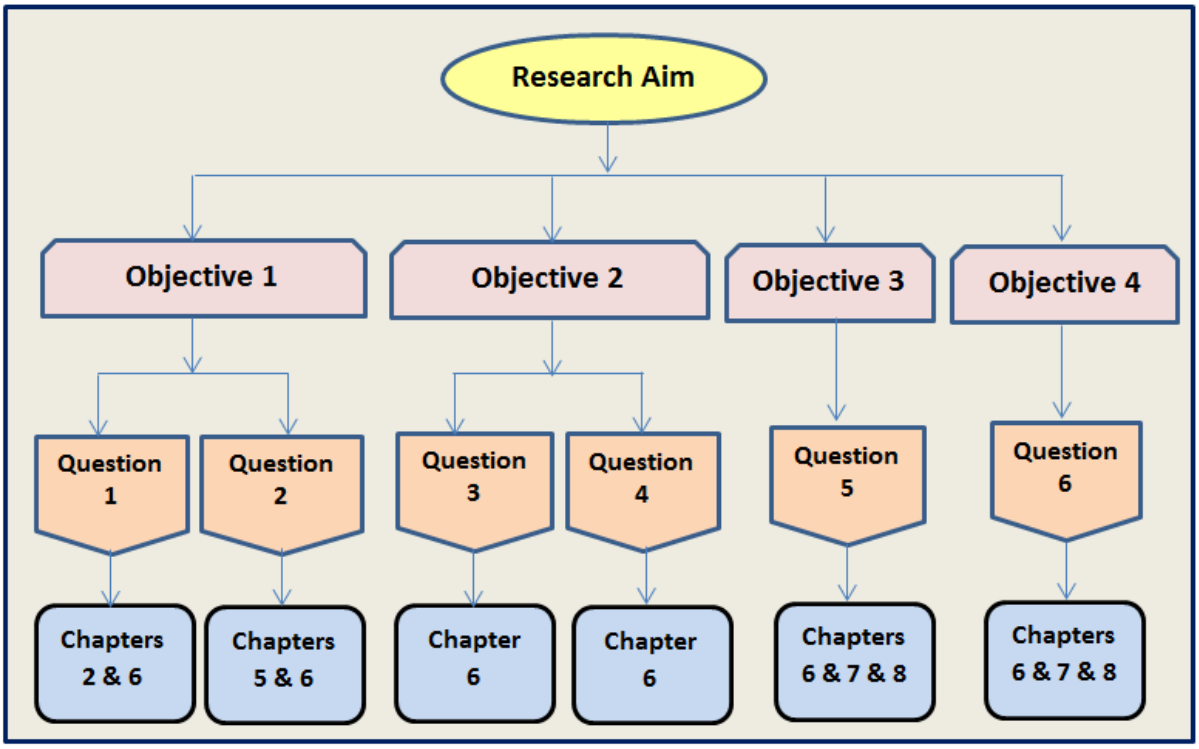
This research attempts to better understand and acquire empirical knowledge of how a case university measures, manages and reports its performance, and how its main stakeholders as well as other factors affect the University's overall performance. To achieve the research objectives, the following research questions were outlined:

1- What is performance and how is it conceptualised at the University?
2- How is performance measured, managed and reported by the University?

3- What and how are key performance indicators (KPIs), measures, and metrics used by the University to measure and manage its performance?
4- How and to which extent is accounting information used in the process of performance measurement and management at the University, to evaluate the performance for reporting to the relevant parties?
5- How and to what extent do stakeholders (governing bodies) affect the University's performance? And what are the outcomes of such influences?
6- What are other main internal and external factors affecting the University's overall performance?

The relationship between aim, objectives, research questions of the study and how these have been achieved is illustrated in Figure 1-1.

Figure 1-1: Relationship of research aim, objectives, questions and how these were achieved



1.5 Significance of the research

Performance measurement and management topic is one of the most controversial issues within the management accounting literature (Fowler, 2008; Sprinkle, 2003). Though it has received a great deal of attention over the last two decades, but not much research into it has focussed on higher educational environments, especially within the developing

countries. Since higher educational contexts are crucial settings which undoubtedly play important roles in societies, and due to the lack of knowledge regarding performance management practices in developing countries, this research project attempts to investigate such phenomenon in a higher education (HE) environment in a developing country context. More specifically, this research seeks to understand how performance is measured, managed and reported by the case university studied, and how the resulting outcomes of the university are affected by various influences and interveners. To achieve this goal, the country of the Islamic Republic of Iran (hereafter Iran) has been selected for two specific reasons. First, the phenomenon in Iran is also a rather new area, particularly in the higher education system which is relatively unknown. Second, the researcher is an Iranian national and thereafter has an understanding of the context within which the higher education system is studied operates. Therefore, this research is driven by a need to explore the mentioned phenomenon in the context of a developing country. A special case university (hereafter the University) is also chosen as it is the second oldest and pioneer university of the country with more than seventy years history in the oil and gas industry sector. The University has an internationally recognised reputation of educating expert man-powers for the oil and gas industry over its operation. It is a governmental university which has currently around 2000 undergraduate, post-graduate and PhD students. Studying and investigating the overall performance of an ancient governmental university as a pioneer (the second oldest) affiliated university in a developing country context which has not been considered previously is a unique and significant contribution in this area. The work is potentially very important for different universities operating in similar environments. Alternatively, it can be useful for the universities which are similar in terms of subject, size and structure, but operating in different environments as well.

To achieve the research objectives, the experiences actively involved in different aspects of the phenomenon of performance management of the University along with a range of internal or external, environmental or process oriented, significant factors relating to, or affecting the phenomenon, would be monitored, examined and scrutinised. The aim of this study is not generalisation, but outcome of this research can be utilised for the management of affiliated universities, colleges or educational institutions with the similar environment or situation.

1.6 Structure of the thesis

The present thesis includes nine substantive chapters in addition to this introduction chapter. The remainder of the thesis proceeds as follows:

Chapter 2 identifies the performance phenomenon and its related issues; such as: dimensions, functions, indicators, measures, measurement, and management. This is followed by an empirical and theoretical literature review relating to the performance measurement and management practices and systems and their application in higher educational environments. A successful performance measurement system is also created to address the literature gap. The chapter then describes the application of theoretical lenses in performance management in the higher education sector, and justifies the adoption of institutional theory in this research.

Chapter 3 deals with the researcher's ontological and epistemological assumptions and beliefs about the world and knowledge which are consistent with the phenomenological paradigm of the research. It describes the sociology and accounting research paradigms. Such research paradigms guide the choice of research methodology which is appropriate to the study and analysis of the research phenomenon.

Chapter 4 proposes, justifies and supports the use of a grounded theory (GT) methodology for investigating, understanding and theorising the performance management phenomenon within the University studied. It also includes a review on the advantages, implications and challenges of using GT approach in management accounting research. In continue, research questions, data collection and data analysis parts are fully explained. Finally, the chapter outlines the empirical analysis carried out by the researcher by undertaking the grounded theory methodology, through using open, axial and selective coding analytical procedures suggested by Strauss and Corbin (1990, 1998).

Chapter 5 initially describes the research context, Iran, its history and background, its political and economic situation as well as education system; particularly higher education system. The second part of the chapter introduces and describes the background and context of the research site that the data was collected from, Petroleum University of Technology (PUT). It is the University benefiting from unique features and characteristics which made it quite useful for investigation for the purposes of the research. The chapter provides a full description and explanation of the structure and situation of the University, its aims and objectives, governance, faculties and programmes, global position, and other related issues.

Chapter 6 discusses the process of the first analytical step of the grounded theory methodology, namely open coding. The aim of the open coding is to discover concepts and categories that represent phenomena and become the foundation for theory generation. At the open coding stage, the open categories are not yet linked and integrated. The open categories are considered as the building blocks of the grounded theory. In this chapter a total of seventeen open categories that were developed through open coding are presented.

Chapter 7chapter 7 deals with the second analytical stage, namely axial coding. At the axial coding stage the relationships between the open categories are uncovered and by integrating the open categories, main categories are generated. In this chapter, the processes and results of the axial coding stage are documented.

Chapter 8 documents the final analytical stage of the grounded theory, which is selective coding stage, and its output is the emergent substantive grounded theory. The principal goal of the selective coding procedure is to identify the core phenomenon that explains the whole story of the research. To achieve this goal, during the selective coding main categories are incorporated together to form a central category which theoretically explains the emergent core phenomenon. The emerging core phenomena, the paradigm model suggested by Strauss and Corbin (1998) and its components, and the emergent substantive grounded theory are fully discussed in this chapter.

Chapter 9 examines the emergent substantive grounded theory in relation to the extant literature. Carrying this out is important for theory building, as it allows the researcher to extend, validate and refine existing knowledge. The chapter draws on insights from both emergent substantive theory and the NIS to propose a more formal grounded theory. The emergent formal grounded theory proposes that how the phenomenon of performance management is affected by interfere of multiple governing bodies and the institutionalisation of performance management.

Finally, chapter 10 summarises the key findings and contributions of the research. These include theoretical, methodological and practical contributions. It also provides reflections on the objectives and questions of the research. The chapter also remarks the limitations of the study (e.g. the extent to which the emergent grounded theory can be generalised to other universities), followed by suggestions for future research on the phenomena.

Chapter 2

Literature Review

2.1 Introduction

According to Hart (1998, p.15) the nature of the literature review in a PhD thesis should be: "Analytical synthesis, covering all known literature on the problem, including that in other languages, Higher level of conceptual lining within and across theories, Summative and formative evaluation of previous work on the problem, Depth and breadth of discussion on relevant philosophical traditions and ways they relate to the problem". Furthermore, Glaser (1992) states that the literature review is often undertaken in parallel with other phases of the research.

To accomplish this issue, in this research the researcher has reviewed the literature throughout the whole project using two different literature review types: technical and non-technical (Strauss and Corbin, 1998), also known as professional and non-professional (Glaser, 1992).

Technical (professional) literature comprises previous studies related to the concept of performance, performance measurement and management practices in higher education contexts. This body of literature review consisted of research papers and reports of research projects conducted in various and miscellaneous contexts, in both developing and developed higher education systems.

In order to get idea of how performance management practices operate and the way in which they shape and direct activities in universities, the researcher reviewed the professional literature to deeply understand the studied phenomenon and its diverse aspects.

By reviewing the professional literature, the researcher gradually acquired "syntagmatic" or "process-oriented" theories, or "the detailed results" of those miscellaneous studies (Goulding, 2002, p.20).

Non-technical (non-professional) literature, on the other hand, contains a range of descriptive information regarding the investigation area. Such kind of literature review allowed the researcher to obtain knowledge about Iran, its economics, culture, politics,

Iranian higher education system, governmental versus non-governmental universities, petroleum ministry, Petroleum University of Technology (PUT), and the Ministry of Science, Research and Technology (MSRT). It resulted in providing several types of institutional documents (such as annual, financial, technical and audit reports) of stakeholders and authorities whose activities and responsibilities were related to the subject studied.

With regard to the above, this study has been engaged with both professional and non-professional literature (Murray, 2002).

2.2 Performance

"The notion of performance is used everywhere and applies to everything! Car buffs, computer nerds, sports fans, consumer advocates, people or groups doing benchmarking, bosses, Human Resources (HR) specialists, business analysts, they are all defining and comparing aspects of required target performance and real performance delivered" (Szigeti and Davis, 2005, p. 9). Szigeti and Davis also identify two key characteristics of the performance concept: 1) The use of two languages, one for the demand for the performance and the other for the supply of the performance; 2) The need for validation and verification of results against performance targets. From this point of view, the concept of performance is simple. But, in fact, Due to multiple potential users of performance evidence with different aims, performance is a multi-dimensional term including a variety of meanings, which makes it quite difficult to give an exact definition of performance.

Tangen (2005) says it depends on what point of view we look at performance. In this regard, Thomas (2006, p. 19) explains: "…much of the literature implies that performance is an objective phenomenon…in reality, however, performance is a social construct…securing agreement on what constitutes performance, especially successful performance, performance is a multi-faceted and subjective phenomenon...an acceptance of ambiguity, contingency, plurality, and controversy can be seen as signs of organisational health, not as signs of confusion, lack of clarity and poor performance...". To give a definition, Laitinen (2002) defines performance as the ability of an object to produce results in a dimension determined a priori, in relation to a target. He further concludes, based on this definition, having: 1) an object whose performance is to be considered; 2) a dimension in which one is interested, and 3) a set target for the result, is necessary. The presence of these three factors ensures that performance as defined above does exist. However, performance will always remain a contested and evolving concept (Thomas, 2006).

Chamoni et al., (2006) state that performance can be understood as a contribution of an organisation-internal or organisation-external individual or group to achieve the organisation's goals. In another definition, Krause (2005) defines performance as the degree of achieving organisation goals or the potential output of all stakeholder-relevant attributes of an organisation. However, different views and definitions represent different aspects of performance.

The next seven sections discuss issues relating to the performance phenomenon.

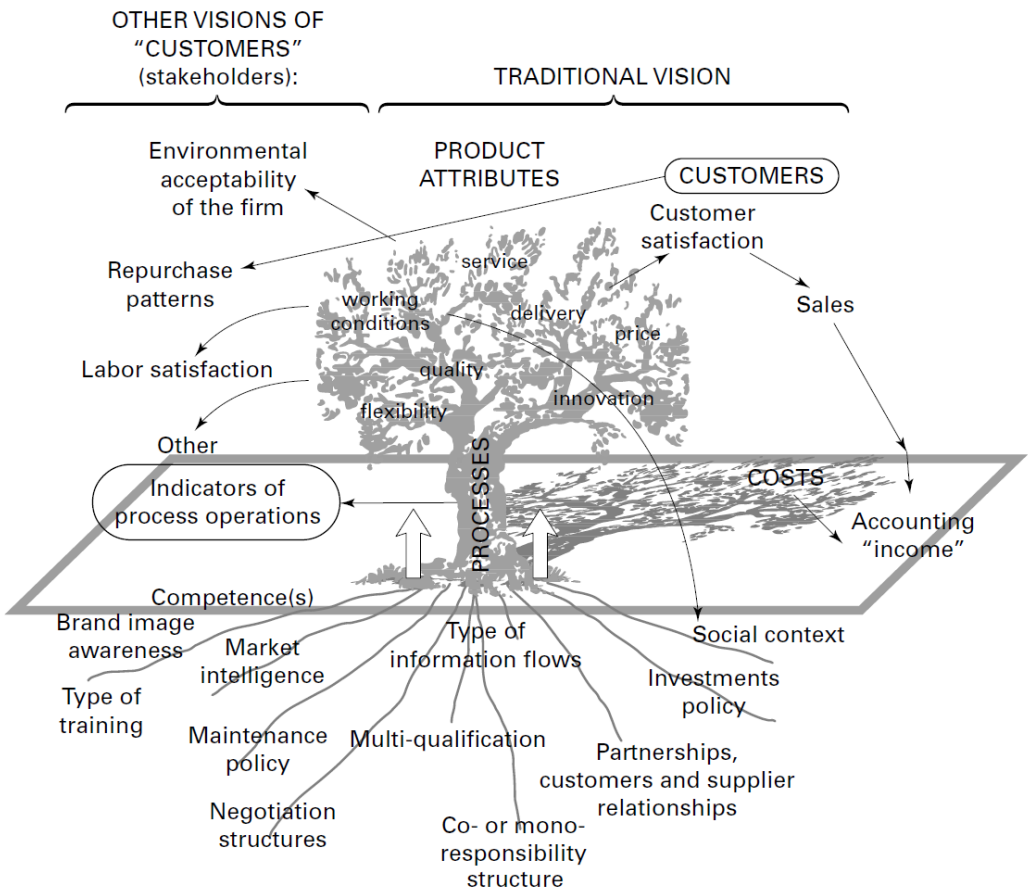
2.2.1 Performance functions

Performance has several functions which are considered as guiding aspects to attaining the objective performance within an organisation. Joubert (2002) has identified six vital functions for performance: 1) An expectation of the outcome; 2) A predetermined standard or target; 3) A measured result or outcome; 4) A time lifecycle or period in which to perform; 5) An emotional reaction to the result; 6) A corrective or incentive response. These functions should be kept in mind when the results of the performance are presented.

2.2.2 Performance and the causal map

A causal model of performance links actions now to results in the future. The performance tree model (Lebas, l995) which is portrayed below (Figure 2-1) is basically a model of performance creation process that indicates how an organisation goes through the process of creating performance. The model both defines and legitimates the performance (Fligstein, 1990). This model includes three generic stages (components): 1) Outcome (often reduced to output and results), 2) Processes, and 3) Foundations.

Figure 2-1: The performance tree



Source: **Adapted from Lebas (l995).**

The definition process of these 3 components of the model is an essential step in creating performance. According to the model, every organisation needs to define the concepts which specifically apply to its own situation. After defining the model, each organisation has to choose the proper indicators to describe it and monitor its situation.

In the performance tree model, outcome, outputs, or results are divided into two broad categories: 1) Traditional conceptualisations of an output (such as: accounting income) which can be held by an owner manager or a stockholder, and 2) Other conceptualisations of results (such as: labour and social climate) that are valued by groups of stakeholders. These results or outputs are consequences of the product attributes (as the basis for customer and stakeholder satisfaction) that constitute the fruit of the tree. Costs (directly (cost minimization) and indirectly (earnings maximization)) do not play a significant role in the causal model of performance, but the mere "shadow" of the processes and attributes created (Neely, 2004, p.70).

The tree model of performance visualizes that outcome or results most of the time do not happen in the same time frame as that of actions. In other words, results of an organisation (performance) are multifaceted and must be described over a long period of time.

2.2.3 Performance dimensions

Research findings of Brush and Vanderwerf (1992), indicated that using of the term "performance" by researchers, have resulted in many constructs measuring alternative dimensions of performance.

Moreover, in the research which was done by Murphy *et al*. (1996), the following eight dimensions of performance were identified: 1)Efficiency; 2)Growth; 3)Profit; 4)Size liquidity; 6) Success/Failure; 7) Market Share; 8)Leverage and 9)Other. They also revealed that, out of those eight performance dimensions, efficiency, growth, and profit were the most commonly used dimensions.

Table 2-1 below shows performance dimensions, measures of dimensions, and frequencies of measures.

Table 2-1: Performance Dimensions, measures and frequencies of measures

No.	Performance Dimensions	Measures of Dimensions & Frequencies of measures
1	**Efficiency**	Return on investment 13 , Average return on assets 2 Return on equity 9 , Net sales to total capital 1 Return on assets 9 , Return on average equity 1 Return on net worth 6 , Internal rate of return 1 Gross revenues per employee 3 , Relative product costs 1
2	**Growth**	Change in sales 23 , Job generation 1 Change in employees 5 , Company births 1 Market share growth 2 , Change in present value 1 Change in net income margin 2 , Number of acquisitions 1 Change in CEO/owner compensation 2 , Change in pre-tax profit 1 Change in labour expense to revenue 1 , Loan growth 1
3	**Profit**	Return on sales 11 , Stock price appreciation 1 Net profit margin 8 , Price to earnings 1 Gross profit margin 7 , Respondent assessment 1 Net profit level 5 , Earnings per share 1 Net profit from operations 5 , Average return on sales 1 Pre-tax profit 3, Average net profit margin 1 Clients estimate of incremental profits 1 Market to book 1

4	**Size liquidity**	Sales level 13 , Number of employees 5 Cash flow level 6 , Case flow to sales 1 Ability to fund growth 5 , Inventory turnover 1 Current ratio 2 , Accounts receivable turnover 1 Quick ratio 2 , Case flow to total debt 1 Total asset turnover 1 , Working capital to sales 1 Cash flow to investment 1
5	**Success/Fail**	Discontinued business 4 , Operating under court order 1 Researcher subjective assessment 1 No new telephone number 1 , Return on net worth 1 Salary of owner 1 , Respondent subjective assessment 1 Change in gross earnings 1
6	**Market share**	Respondent assessment 3 , PIMS value 1 Firm product sales to industry product sales 1
7	**Leverage**	Debt to equity 2 , Long-term debt to equity 1 Times interest earned 1 Stockholders capital to total capital 1
8	**Other**	Change in employee turnover 1 Relative quality 1 Dependence on corporate sponsor 1

Sources: Adapted from Murphy et. al (1996).

"Behavioural aspects" of performance should be also noticed. Based on Waal (2002), the term "behavioural aspects" has here twofold uses: first for activities of organisational members that can be observed, and second for preconditions that allow organisational members to display performance driven behaviour.

2.2.4 Performance indicators

Performance indicators are the tools used to define and measure the progress of organisations toward their goals and objectives. The purpose of performance indicators must balance the needs for public and professional accountability with the need to promote quality improvement initiatives (Ibrahim, 2001). The scientific soundness of performance indicators is expressed in terms of validity and the explicitness of the evidence base (Hurtado et al., 2001). But performance indicators that are valid and reliable can still be misused depending on the method of analysis and a lack of understanding of the limitations of the methods (Zaslavsky et al., 2001). Regarding the indicators categorization, they are summarised into the sub-categories of quantitative, practical, directional, and actionable indicators. In public sector, the purpose of performance indicators must balance the needs for public and professional accountability with the need to promote quality improvement initiatives (Ibrahim, 2001).

There are general characteristics of performance indicators. According to (Mentzer, et al., 1994) performance indicators need to satisfy a number of conditions as follows:

1. The performance indicators should be realistic and representative, so that the gathered information reflects reality.
2. The measurement must be performed consistently, in order that they are defined and quantified in the same way throughout the entire system.
3. The performance indicators should not only be expressible in physical units, but also in financial terms.
4. The performance indicators should be able to make costs transparent and to provide a basis for investment decisions.
5. The performance indicators should reflect the responsibilities of the managers involved in the decision process.
6. The costs to collect and present the performance indicators should reflect the benefits of the information.

The above mentioned general conditions provide basic criteria for selecting the proper KPIs out of several miscellaneous PIs.

Furthermore, Balachandran and Balachandran (2009) highlighted several key features of performance indicators as follows:

1- They are goal or result oriented (related to missions or outcomes);
2- They have a reference point (a target performance over time or comparison across institutions);
3- They provide strategic information about the condition, health or functioning of the institution/system;
4- They are evaluative (the purpose is to assess);
5- They are strategic, specific, policy oriented and issue driven; and
6- They connect outcomes to structure and process taking inputs into account and are used for improvement, enhancement, positive reform.

2.2.5 Performance indicators stages

There are four stages in the life of performance indicators: 1. Policy, 2. Development, 3. Implementation and 4. Evaluation phases. The policy phase requires that the scope, purpose and “mechanism of change” of the performance indicators be considered and

clearly articulated. This scope is enormous and covers a vast range. Also performance indicators can be used to measure the performance at the local, regional, national, or international level. The policy phase must also consider which of the various dimensions of the systems can be described using performance indicators and whether they meet the needs of the stakeholders. Also the “mechanism of change” refers to how the performance indicators will lead to improvements in the systems.

The development of a performance indicator requires decisions to be made about what is important in the system, a determination of what can be measured and the scientific soundness of the measurement. The development and implementation phases require reconciling the ideals of an epidemiological research purist and the pragmatism required to survive in the real world. The evaluation phase must ensure the application of the data is congruent with the original purpose for which it was collected (Ibrahim, 2001).

2.2.6 Key performance indicators (KPIs)

The term Key Performance Indicator (KPI) has become one of the most over-used and little understood terms in business development and management. In theory it provides a series of measures against which internal managers and external investors can judge the organisation and how it is likely to perform over the medium and long term. The KPI when properly developed should provide all staff with clear goals and objectives, coupled with an understanding of how they relate to the overall success of the organisation. Published internally and continually referred to, they will also strengthen shared values and create common goals (Ibis Associates, 2007).

Understanding and prioritizing the Key Performance Indicators (KPIs) plays a big role in helping the organisations and their PMSs ensure that they are measuring the success of their performance, business or campaign in a right way. Thus, KPIs should reflect a balanced perspective of the organisations by measuring main aspects and actual outcomes of their performance. So it is important that always both financial and Non-financial KPIs directly related to the organisations’ strategy be adopted.

In addition, there are some other principal criteria for KPIs, such as: 1) KPIs should be simple, well defined easily understood and easy to use; 2); KPIs vary between locations, i.e. one measure is not suitable for all departments; 3) KPIs should provide fast feedback; 4) KPIs should be designed so that they stimulate continuous improvement rather than simply monitor; 5) KPIs should not be chosen without considering and taking into account

behavioural aspects, as they greatly impact the employees' behaviour. This makes a mutual understanding between employees and the organisation, represented by the managers. Employees know what their tasks are and what is expected of them. Furthermore, they are evaluated based on their actual performance, not based on prejudice, bias, or unrealistic assumptions.

It should be noted that although organisations with different lines of missions, goals and activities usually use their own specific types of metrics to measure the performance, but in fact there are a couple of common KPIs which are used by all organisations. This is because of that they have employees and it's vital to measure the basic performance attributes which play a significant role in their development.

There are several levels of KPIs within an organisation. There may also be different degrees of importance for Key Performance Indicators. They can be basic KPIs, or more important/defined KPIs. Understanding and prioritizing the KPIs plays a big role in helping the organisations ensure that they are measuring the success of their performance, business or campaign in a right way.

2.2.7 Performance measures

"*What is it that creates good performance in organisations? If you believe the answer is leadership, commitment, creativity, learning, team work and quality (all behavioural factors) then it begs the next question, what measures have you found that maximise these behavioural factors? None is the likely answer" (*Hope, 2006, p.149). Love and Holt (2000) and Mbugua *et al*., (1999) make a distinction between performance indicators, performance measures and performance measurement. As Mbugua *et al.*, (1999) state, performance indicators determine the required measurable evidence to prove that a planned effort has achieved the expected result. Based on their definition, indicators are called measures when they can be measured without ambiguity and with some degree of precision. In other words, performance measures report clearly about the relationships between programme activities, outputs and outcomes associated with them (Thomas, 2006). He also claims performance indicators are less precise than measures, as they usually provide only a proxy indication of the performance of a programme or system. Thomas (2006, p. 28) further continues: "whereas measures might be likened to numbers on a gauge, performance indicators might be compared to alarm bells". Also, Sinclair and Zairi (1995) claim that performance measures are the numerical or quantitative indicators. At this time Neely *et al*., (1995, p.80) define performance measures as: "a metric used to quantify the efficiency and/or

effectiveness of an action". However, when it is not possible to find a precise performance measure, it is better to refer to performance indicators. It should also be noted that to the best of our knowledge in current state, the distinction between true measures and approximate indicators is somewhat artificial (Thomas, 2006). However, performance measures and targets are key elements of performance measurement.

The diversity of organisations tells that the implementation of a single model for performance measures is not straightforward. Just choosing appropriate measures and combining them into one measurement system that satisfies most points of view has become a complex and time-consuming facet of PMSs. Previous experience is required for designing appropriate performance measures, else it is likely that the information retrieved from the measures would not be interpreted correctly (Tangen, 2005). Scriven (2004) propounded the following criteria which have been proven by experience and research to be effective in assisting in the selection of performance measures: 1) Performance measures should truly align with the strategic direction of the organisation; 2) Performance measures should be quantitative and it is advisable to be pragmatic when selecting performance measures; 3) Accessibility can be an issue and it is advisable to undertake a cost and benefit analysis of collecting measures which are not readily available. In fact there should be reasonable balance between the cost of collecting the indicators and the value of the information they provide; 4) A phased realisation approach is preferable as performance measures may be progressively refined or added. In other words, circumstances and objectives of the organisations usually change over time and when an objective changes, the related measures should change as well. Here there should be a flexibility in the PMS to let this change happen ensure that the PMS at all times is coherent with the objectives of the organisation.

These criteria are sometimes incompatible. For this problem, Neely *et al*. (2002) give an example. They mention performance measures, on the one hand, must be designed to be as exact as possible, which may result in a very complex formula and on the other hand, must be easy to measure and easy to comprehend, which are arguments for using simple formulas.

Regarding the number of measures, Turnage (2006, p. 3) mentions "if you have hundreds of measures, you have none". Meaning that there should be a concise number of Performance measures within organisations and they should concentrate on a limited number of key indices. In this regard, Scriven (2004) by giving the following example (see Table 2-2), rejects this attitude that some organisations have so many key performance indicators or

measures. He continues that it is likely they cannot see the wood for the trees and claim this is a major indicator of failure for the use of Scorecards in an Organisation.

Table 2-2: Reasons of failure of a PMS

Description	Reasons of failure of the PMS
One Australian University published over 100 measures	Too many measures.
These measures reflected the availability of data rather than what was important to the business strategy	No clear business strategy
Furthermore these were measures only at the corporate level.	No focus on strategy
To have broken them down to the next level (division / faculty) would have required a significant level of data collection and systems effort	No linkage to strategy.
The measures were mainly logging measures.	Measures do not reflect strategic drivers but rather ease of data collection.
They did not change behaviour or measure accountability.	Accountability mechanisms are not established.

Source: Adapted from Scriven (2004).

2.3 Performance measurement

Performance measurement is a systematic way of evaluating the inputs and outputs of an activity and is considered as a tool for continuous improvements (Sinclair and Zairi, 1995; Mbugua *et al*., 1999). Neely *et al*., (1995, p.80), define performance measurement as: "the process of quantifying the efficiency and effectiveness of action". It is a part of an organisation's management process to inform how the organisation is doing against its intentions (CIPFA, 1998). Some examples of performance measurements which have emerged in management literature to improve the performance are: financial measures, employee measures, customer satisfaction measures, supplier measures, project performance measures and industry measures (Mbugua *et al.*, 1999). On the discussion of how and why now the business performance measurement has become so topical, Neely (1999) gives the following seven major reasons: "(1) the changing nature of work; (2) increasing competition; (3) specific improvement initiatives; (4) national and international

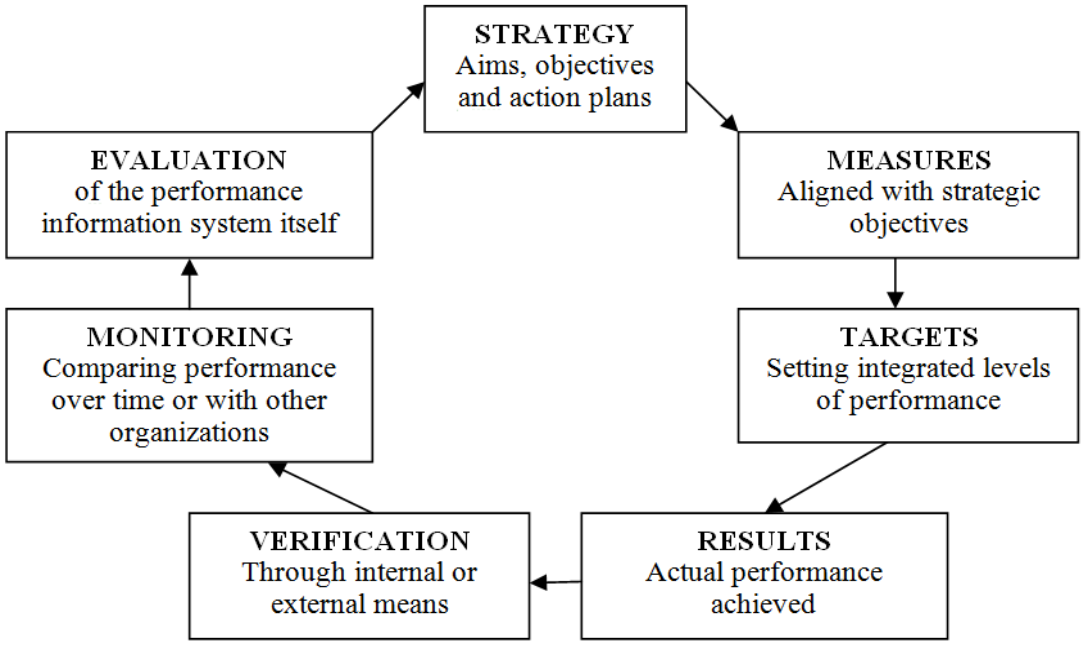
awards; (5) changing organisational roles; (6) changing external demands; and (7) the power of information technology".

The above expressions emphasise that performance measurement concept is worth reviewing because of its significance. The literature review also suggests the complexity of the term, as they carry out varied meanings and applications (Schick, 2002; Shah and Shen, 2007).

2.4 Performance measurement components

The components of performance measurement are set out in the diagram below (Figure 2-2). As the diagram shows, performance measurement is something more than having just a set of measures. Performance measures must be put in their correct place within the context of the organisation, the results of the measures considered and monitored and the system itself evaluated (HM treasury, 2001). In other words, the basic system of any performance measurement is that measures are developed from an organisation's strategy, with actual performance assessed against targets set.

Figure 2-2: Components of performance measurement



Source: Adapted from HM treasury (2001).

2.5 Performance management

Performance management is a management tool that integrates the operations with the strategic intent of the organisation (Williams, 2006). Holloway (1999, p. 240) defines performance management as: “the managerial work needed to ensure that the organisation’s top level aims (sometimes expressed as “Vision” and “Mission” statements) and objectives are attained.

Historically, the time of arising the concept of performance management goes back to approximately 1990s, when several critical often asked questions regarding the business information arose in many organisations: “How are we performing? Are we investing in the right projects? What do our customers think of us? What is our cash flow?” (Sharif, 2002, p. 62). Performance management lies at the heart of management. It reacts to actual performance to make outcomes for accountable parties and other internal and external users better than they could otherwise be. It is actually about both the culture and systems that turn ambition into reality (Audit Commission, 2006). Performance management practices are related to the ability of an organisation to become more effective and efficient (Evans and Bellamy, 1995). To be clear, performance appraisal is only one part of performance management system.

2.6 Management control systems

Simons (2000) defines Management control systems (MCSs) as the formal, information-based methods and procedures which managers use to keep or change the patterns in the organisational activities. MCSs focus on conveying financial and operational information which influence managerial action and decision making procedure.

2.7 Performance management systems

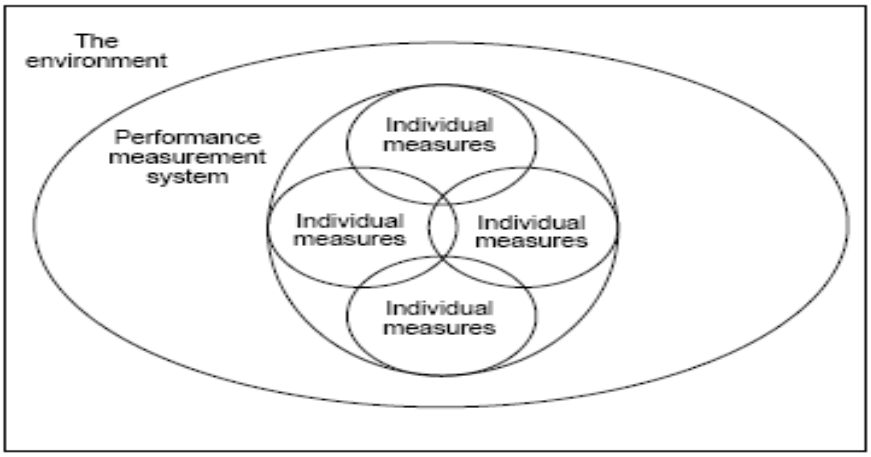
Emmanuel *et al*. (1990) define performance management system as an essential component of an organisation’s MCS which is related to its ability to become more effective and efficient. Radnor and McGuire (2004) classified performance management system into four main groups: 1) Belief systems, which pertain to issues of vision; 2) Boundary system, which surrounds issues of internal controls; 3) Diagnostic control system, which looks at monitoring budgets; and 4) The interactive control systems, which focus on project planning. The

classification was made based on the variables that one wishes to measure, influence or control.

2.8 Performance measurement systems

Performance measurement systems (PMSs) have become popular and grown in use over the last two decades. Organisations adopt PMSs for a variety of reasons, but mainly to control their organisation in ways that traditional accounting systems do not allow (Kellen, 2003). Based on Neely *et al*.'s (1995, p. 81) definition, PMS is "the set of metrics used to quantify both the efficiency and effectiveness of actions". In their definition, efficiency is a measure of how economically the organisation's resources are utilised when providing a given level of customer satisfaction, while effectiveness refers to the extent to which customer requirements are met. In another definition, Bititci *et al*. (1997, p.522) introduce PMS as "the information system which is at the heart of the performance management process and it is of critical importance to the effective and efficient functioning of the performance management system". Furthermore, according to Bourne *et al*. (2003) a PMS refers to the use of a multi-dimensional set of performance measures for the planning and management of an organisation. As Neely *et al*. (1995) explain, in a framework for designing a PMS, three levels should be observed: 1) The individual performance measures level; 2) The set of performance measures (the performance measurement system as an entity); and 3) The relationship between the performance measurement system and the environment within which it operates. The framework is shown below (Figure 2-3).

Figure 2-3: A framework for performance measurement system design



Source: Adapted from Neely *et al*. (1995).

The performance measurement system (PMS) is one of the complex but most important systems in any organisation. The term PMS has become one of the most over-used but relatively less understood terms in the organisation theory. In theory the PMS provides a series of measures against which internal managers and external investors can judge the organisation and how it is likely to perform over the short, medium and long term. It helps organisations gain more control over important activities and support them to expand their potential for competencies with others.

Adopting a PMS is not a simple technical procedure and takes lots of time, efforts and resources. Besides, poorly managing the PMSs risk being burdensome without helping to reach the objectives. But the question is that, could an organisation really have a successful PMS without an understanding of its requirements and critical success factors (CSFs)? and what are the barriers/enables to the achievement of a successful PMS in this highly competitive environment? These are important issues but often less noticed in practice. If a PMS is not well adopted it would not bear fruit. Therefore, recognising requirements and CSFs of PMSs are among of the major challenges confronting PMSs and contribute significantly to their success in this highly competitive environment.

In another study, Malague and Bisbe (2014) investigated how PMSs affect organisational performance and strategic decision making, and found a positive association between these two variables in the presence of environmental dynamism. Micheli and Mari (2013), attempted to improve the theory and practice of performance measurement in organisations and presented a pragmatic perspective of performance measurement in physical and social sciences. They concluded that PMSs should benefit from appropriate flexibility, adaptability and strategy. They further concluded that PMSs: “should be proportionate, i.e., they should consist of an adequate number of indicators, which can inform decision-making processes, rather than aim at providing ‘true representations’ of performance”.

2.9 Performance management frameworks

Over the last two decades, several new performance measurement frameworks have been created to help organisations design and implement their performance measurement systems to assess all dimensions of their performance and reflect their objectives appropriately. Some of the better known of these frameworks in the literature are: 1) The performance measurement matrix (Keegan *et al*., 1989); 2) The results and determinants framework (Fitzgerald *et al*., 1991); 3) The SMART performance pyramid (Cross and Lynch,

1992); 4) The balanced scorecard (Kaplan and Norton, 1992); and more recently, 5) The performance prism (Kennerley and Neely, 2002; Neely *et al*., 2002).

Table 2-3 below shows a brief history of the performance measurement frameworks development (evolution) over the last two decades.

Table 2-3: Evolution of the Performance Measurement Frameworks

No.	Performance Measurement Framework	Developed By:
1	Performance Measurement Matrix (PMM)	Keegan *et al*. (1989)
2	Strategic Measurement Analysis and Reporting Technique (SMART Pyramid)	McNair *et al*. (1990); Lynch and Cross (1991)
3	Performance Measurement Questionnaire (PMQ)	Dixon *et al*. (1990)
4	Results and Determinants Matrix (R&DM)	Fitzgerald *et al*. (1991); Fitzgerald and Moon (1996)
5	The Balanced Scorecard (BSC)	Kaplan and Norton (1992, 1996 & 2000)
6	Consistent Performance Measurement Systems (CPMS)	Flapper *et al*. (1996)
7	Cambridge Performance Measurement Process (CPMP)	Neely *et al. (*1996, 2000); Bourne *et al*. (1998, 2000)
8	Integrated Performance Measurement Systems (IPMS)	Bititci *et al*. (1997, 1998a, b)
9	Integrated Performance Measurement Framework (IPMF)	Medori (1998a, b); Medori and Steeple (2000)
10	Comparative Business Scorecard (CBS)	Kanji (1998); Kanji and Moura e Sá (2002)
11	Dynamic Performance Measurement Systems (DPMS)	Bititci *et al*. (2000)
12	The performance prism (PP)	(Kennerley and Neely, (2002); Neely *et al*., (2002).

Source: Developed by researcher. Some material from Pun & White (2005)

All these frameworks are characterized by addressing some of the criticisms of traditional financial based measurement systems, dealing with a rapidly changing environment, emphasising on giving a considerable role to non-financial and qualitative measures, and finally focussing on such factors as quality, flexibility, reliability, relevancy, customer satisfaction, and delivery performance. “A common theme in these systems has been a

determined attempt to tie performance metrics more closely to a firm's strategy and long term vision" (Pun and White, 2005). Thus, they could have successfully covered a great extent of the weak points of old measurement systems.

Table 2-4 presents major differences between traditional and new performance measurement systems by highlighting their specific features and characteristics created due to changes and trends in development of emerging new performance measurement systems from a vast amount of literature in this area.

Table 2-4: New vs. Traditional Performance Measurement Systems

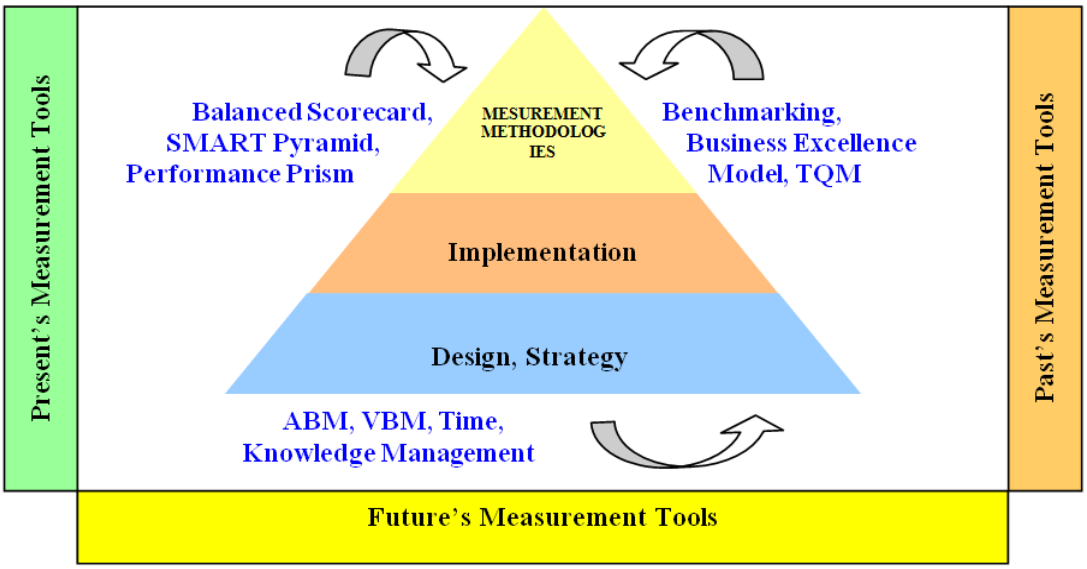
Row	Emerging Performance Measurement Systems	Traditional Performance Measurement Systems
1	Based on company strategy	Based on traditional accounting system
2	Aims at evaluating and involving	Aims at evaluating
3	Customer-oriented	Profit-oriented
4	Long-term orientation	Short-term orientation
5	Value-based	Based on cost/efficiency
6	Prevalence of transversal measures	Prevalence of functional measures
7	Stresses continuous improvement	Hinders continuous improvement
8	Performance compatibility	Trade-off between performance
9	Improvement monitoring	Comparison with standard
10	Prevalence of team measures	Prevalence of individual measures

Sources: Adapted from Ghalayini and Noble (1996, p. 68); De Toni and Tonchia (2001, p. 47).

As a result, an increasing number of organisations have been investigating implementing these new systems and frameworks (Rejc and Slapnicar, 2005). "Altogether, between 40 and 60 percent of companies significantly changed their measurement systems between 1995 and 2000" (Frigo and Krumwiede, 1999, p. 43). However, none of these systems are perfect and by referring to Kennerley and Neely (2002) on the lack of ongoing attention to the performance measurement process as "barriers to the evolution of performance measurement", it is revealed that more work in this area needs to be done.

The framework below (Figure 2-4) illustrates the contribution of various frameworks, concepts, and tools of performance measurement. It should be mentioned these multitude of concepts, perspectives, theories and frameworks on performance measurement (or any other subject matter) is called ”meta-theory” (Hedberg *et al*., 2000). Meta-theory helps organisations to determine a hierarchy of measures which connect the organisational vision to strategy and those actions which reflect strategies and objectives.

Figure 2-4: Performance measurement methodologies, tools and concepts



Source: Developed by the author. Some material from Sharif (2002).

In a broader view, Cooper and Ezzamel (2013) analysed the phenomena of globalisation and PMSs (such as BSc and KPIs) and concluded “by stressing potential for the globalizing effects of PMSs … even in the absence of explicit statements about globalization. PMSs are also well used in the prediction of capital project failure (Chen, 2015). Franco et al. (2012) developed a conceptual model for understanding the literature on the consequences of contemporary PMSs and the theories that justify these consequences. Koufteros (2014) has also highlighted several issues and gaps in designing and using PMM systems.

2.10 Successful performance measurement systems

What is a successful PMS? A successful PMS is a system which provides accurate, reliable and relevant information at the right time for the organisation. Such PMS develops a basis for deciding what is measured, how and with what consequences. It reduces the burden on the managers. Once can be claimed a PMS is successful which its outcomes result in

improving the behaviour of the employees and the organisation, than just measuring the performance. Traditional PMSs have been restricted to the financial measures such as ROI, EPS, and EVA. These approaches considered as successful up to about two decades ago, but then after has proved more deficient due to rapidly changing environment driven by technological, economic, political and social forces. Therefore, since the early of 1990s the efforts have been focusing on developing more balanced approaches incorporating multi-dimensional performance measures (Metawie, 2005). In this regard, many compilations have been done in the PMS literature trying to introduce as much as comprehensive PMSs to enhance the organisations' economy, efficiency and effectiveness and help them show a balanced multi-dimensional picture of their organisation. However, few of these compilations practically provide any means of how to handle the requirements and CSFs of PMSs. The problem is that, no two organisations are alike. It means every organisation has its own unique conditions, and consequently requires its own special PMS. Also, a couple of other internal and external factors impact the success of PMSs. These issues altogether have caused much ambiguities and acting as barriers raised some problems for PMSs being successful. This section concerns about how a PMS can become successful. In this regard, the researcher has identified and analysed the most important challenges and CSFs confronting a PMS and introduced a "successful PMS model". This model lays down a path for a PMS works efficiently and being successful within organisations.

2.11 Critical success factors

Critical success factors (CSFs) are the integral parts of PMSs which are vital to their success. But what are they? The concept of CSFs was first introduced by D. Ronald Daniel in the 1960s. A decade later, Jack F. Rockart denoted and developed it. Rockart (1979, p. 85) defined CSFs as: "The limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organisation. They are the few key areas where things must go right for the business to flourish….CSFs are areas of activity that should receive constant and careful attention from management". CFSs are significantly related to the mission and strategic goals of the system. Whereas the mission and goals focus on the aims and what is to be achieved, CFSs focus on the most important areas and get to the very heart of both what is to be achieved (measured) and how it will be achieved (measured). CSFs are unique to each (PMS) system and can be identified by applying system analytics. In a nutshell, CSFs are a number of characteristics or variables that have a direct and serious and strong impact on the effectiveness, efficiency, and viability of a system or organisation. Activities related to the CSFs must be performed at the highest

possible level of the system to achieve the intended overall objectives. They are also called key success factors or key results areas. Most of the prior research focused exclusively on CSF identification and did not investigate the three interrelated areas of 1) CSF identification, 2) underlying constraint analysis, and 3) measure identification. Nor did any of the prior research attempted to test the credibility of identified CSF against any defined analysis criteria, especially in a contextual framework. CSFs are "areas of activity that should receive constant and careful attention from management".

Based on what mentioned, there are four basic types of CSFs: 1) Industry; 2) Strategy; 3) Environmental; and 4) Temporal CSFs. Each CSF should associated with a target goal. In PMS literature, CSFs refer to the areas of activity surrounding a PMS which focus on the most important issues and variables that absolutely critical to its success. The concept of CSFs is an integral part of PMS and is vital to the successful operation of the PMS. In other words, identifying and implementing the CSFs prevents a PMS wasting efforts and resources on less important areas and ensures of being well-focused and successful. It also, helps the organisation direct and measure its current operation and future success. Without CSFs a PMS will become unviable. All CSFs should be known and assigned. However, some of them are manageable and others can only be monitored. A successful PMS is built on around eight CSFs which are illustrated in Figure 2-5.

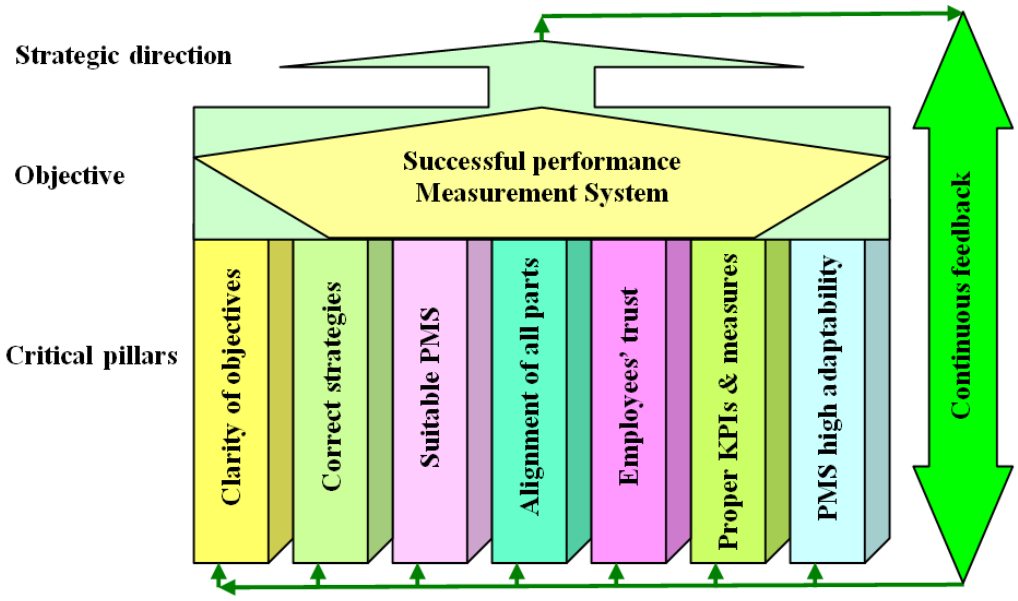
Kwee Keong Choong (2013, 2014) identifies the critical success factors that are considered essential in conceptualizing the features of an effective and efficient PMS. In his researched he focuses on the features for measurement from 1990 to 2012 and provided a conceptual framework to improve measurement and PMS on the basis of appropriate features of CSFs and PMSs.

2.12 Successful performance measurement system (PMS) model

Pinheiro De Lima et al. (2013) remark challenges confronting designing and using PMSs due to advances in technologies and competitive pressures. They state: “Understanding the roles of such systems is a first step in developing and employing the appropriate system capabilities and functions” and then identify such roles. In their research, they “capture expert views through interviews and a Delphi exercise”. They found that “the appropriate PMS roles are contingent on design recommendations”. They provided “insights for the design, management and use of PMS in organisations”.

The following factors are critical to the success of a PMS: 1) Clarifying the objectives; 2) Applying the correct strategies; 3) Choosing an appropriate PMS; 4) Alignment of all parts; 5) Identifying Proper KPIs and measures; 6) Employees' participation and trust; 7) PMS high adaptability; and 8) Getting feedback. The "Successful PMS model" (Figure 2-5) illustrates how these CSFs together constitute the pillars of the success of a PMS[1] .

Figure 2-5: Successful PMS model (Critical factors as pillars of PMS success)



Source: Developed by the author

The above model shows that a successful PMS will be built upon around eight CSFs. Based on this model, each CSF acts as a pillar of success. Attainment of successful PMS depends on satisfactory performance of each CSF, both independently and totally as a whole. It is also obvious from the model that the lack or poor performance of each CSF would hurt the PMS working efficiently and being successful within the organisation. They have in fact significant impacts on the success of a PMS, but are often less noticed in practice. In the next sections, some of the CFSs are elaborated.

[1] The "Successful PMS model" has been presented at the British Academy of Management (BAM) and published in the peer reviewed academic journal of Business and Economics Review (2009) with the title of: "Modelling a Successful Performance Measurement System". Full details are given in the references section. Furthermore, most of the work (sections 2.11 and 2.12 (including 2.12.1 to 2.12.8) is published as an academic article in the Business and Economics Review journal (2009).

2.12.1 Suitable PMS

All organisations have their own unique PMSs, designed based on their specific operational needs, objectives, requirements, and culture. Regardless of what type of an organisation, a sound PMS itself must be equipped with three key characteristics. The PMS should be: 1) Legitimate; 2) Technically valid; 3) Functional (Thomas, 2006). Also, according to Tangen (2005), there are four requirements for PMS which are considered as most important requirements. Based on these requirements, PMSs must: 1) provide accurate information; 2) be derived from the organisation's objectives, support its strategy and tactics; 3) Guard against sub-optimisation; and 4) Include a limited number of performance measures. Moreover, some other qualities are considered as important features of a good PMS. For example, PMSs should provide accurate, reliable and relevant information to the organisation. Relevance, here itself is a qualitative characteristic which timeliness, feedback value and predictive value are its components. PMSs should use a mix of both financial and non-financial performance measures and consider short term as well as long term results. Furthermore, as Neely *et al*. (2002) propose, PMSs must consider other stakeholders besides the investors, such as customers, suppliers and employees. A good PMS, should also evaluate the group, not individual performance. Although just having or establishing a good PMS, does not necessarily guarantee it will result in a better performance, but it is quite critical for the organisation to establish a proper PMS compatible to its nature and goals, as the success of the organisation is heavily based on this factor. The main reason is that PMS, in the best shape, just provides the correct information for the organisation, and then appropriate decisions and actions are made based on that information. If it is not appropriately designed or chosen, or is not suitable for the organisation, or is not matched completely with all parts of the organisation, it would definitely not be able to provide the correct information, and as a consequence, it would result in wrong strategic decisions which would surely have a negative influence on the performance of the organisation. However, many other factors within the organisation, such as environment, availability of resources, culture, motivation to change, would also affect the decisions and actions. Regarding the type or complexity of the PMSs, Tangen (2005) has categorized PMSs into three classes which are shown in Table 2-5. Based on this classification, he suggests that an organisation should start firstly with a third class, simple yet useful PMS fulfilling the organisation's basic needs instead going directly to an advanced, and when is completely done, should progress to the second class and gradually to the highest class. He even goes further by saying that one needs to learn how to walk before how to run, emphasises that an impatient organisation that directly attempts to reach the highest class of a PMS will almost surely fail. Thus the period of experimentation and learning of each class before fully embedded into

the organisation should be conceived. Considering the availability of several PMSs to select from and also a couple of other factors like organisation size and structure, management attitude, experience, culture, etc., offers practitioners many options for designing and implementing a PMS for their organisation, which makes it quite challenging and confusing to establish a successful PMS, due to lots of alternatives and ambiguities raised. Employing a wrong PMS may result in dismissing it totally and starting from the beginning with a completely new third class PMS which means incurring a great loss and waste of all resources of the organisation.

Table 2-5: Performance measurement system classes

System Class	Description of the system	Characteristics
Third Class (Mostly Financial)	In this class mostly traditional performance measures such as ROI and cash flow are used. These systems are profit oriented and are optimising against cost efficiency and mainly short term results with limited and delayed feedback.	Low requirements, Having control over the basic principle, Single-dimensional, Focus: internal, Short-term result, Top hierarchical levels covered, Easily accessible information.
Second Class (Balanced)	This class has a multidimensional balanced view of performance, when it comes to both different perspectives and time horizons. These PMS support innovation and learning and are very Customer oriented. Aim to improve rather than to monitor.	Multi-dimensional, Focus: internal and external Long-term and short-term result, Most hierarchical levels covered, Information goes directly to the right persons.
First Class (Fully Integrated)	This is the most advanced system class, which means that many high standards are met. This PMS is able to explain different causal relationships across the organisation. The needs from all relevant stakeholders are considered. Databases and other reporting systems should be fully integrated to one another. The information in this PMS is updated continuously and directly presented to the persons who need it.	Causal relationship dimensional, Focus: all stakeholders, Existing processes for natural evolution, All hierarchical levels covered, Advanced information handling architecture.

Source: Adapted from Tangen (2005).

A PMS as a design product and its design process should comply with the outlined requirements. Grosswiele et al, (2013) designed a decision framework that consolidates existing PMSs in such a way that information processing complexity and costs are balanced

with the extent to which decision makers' information requirements are met and alignment with corporate objectives is achieved. They initially focused on the conceptual parts of PMS, i.e., the enclosed measures and the interdependencies among them.

2.12.2 Proper key performance indicators and measures

Understanding and prioritizing the Key Performance Indicators (KPIs) plays a big role in helping the organisations and their PMSs ensure that they are measuring the success of their performance, business or campaign in a right way. Thus, KPIs should reflect a balanced perspective of the organisations by measuring main aspects and actual outcomes of their performance. So it is important that always both financial and Non-financial KPIs directly related to the organisations' strategy be adopted. In public sector, the purpose of performance indicators must balance the needs for public and professional accountability with the need to promote quality improvement initiatives (Ibrahim, 2001).

In general, there are some principal criteria for KPIs and measures, such as: 1) KPIs should be simple, well defined easily understood and easy to use; 2); KPIs vary between locations, i.e. one measure is not suitable for all departments; 3) KPIs should provide fast feedback; 4) KPIs should be designed so that they stimulate continuous improvement rather than simply monitor; 5) KPIs should not be chosen without considering and taking into account behavioural aspects, as they greatly impact the employees' behaviour. This makes a mutual understanding between employees and the organisation, represented by the managers. Employees know what are their tasks and what is expected of them. Furthermore, they are evaluated based on their actual performance, not based on prejudice, bias, or unrealistic assumptions.

2.12.3 PMS high adaptability

Adaptability here refers to the ability of quick response to changes, improvability and developability. PMS should be flexible and rapid in responding to the constant internally and externally changes in conditions of the organisation. This feature of continuously adaptability is an important factor of success (Kennerley and Neely, 2002). This becomes particularly important if the organisation's environment is competitive. Improvability comes through this fact that some factors are not considered at the time of design a PMS. This feature allows organisations to keep their existing PMS, instead of adopting a completely new PMS. It helps PMSs be compatible with the on-going changes. PMS should be designed with a broad view with a great potentiality so that when the organisation progresses, it could meet

the new requirements. Like building a new house on the same foundation, which should be strong enough for future expansion and adding more floors upon it, not destroying it down and building from the first. While improvability looks at temporary short-term solutions, developability relates to long-term plans. As previously mentioned, it takes time to develop a PMS as the organisation needs to build up experience of the existing PMS before moving to an advanced one. Improving and developing PMSs can be challenging at some point and may require employees' tolerance and consensus during the transition process. Without these features, over time, PMSs face serious problems measuring and reporting successfully. It is worth mentioning that adaptability is not a project that finishes one day. It is a continuous matter which requires ongoing management's attention.

Lee and Yang (2011) investigated the impact of competition and organisation structure on the design of PMSs and their joint effects on performance. The design of PMSs was examined using two dimensions: the use of integrated measures related to the four dimensions of the BSC and the extent of development of PMSs. They divided organisations into mechanistic structures (with more organisational levels, higher centralization, a narrower control range, and more formal rules) and organic organisations (with fewer formal rules, greater decentralization, and fewer layers in the hierarchy). It was found that "organic organisations make greater use of integrated measures and the higher developmental stages of PMSs". They also concluded that organisation structure was considerably associated with the design of PMSs. Moreover, organisation structure and competition had partial joint effects on performance and the use of PMSs.

PMSs need to be reviewed and updated according to external (such as IT) and internal organisational and environmental changes. Such changes are as necessary and important as implementing and developing them. However, reviewing and developing existing PMSs are difficult and complex due to the involvement of multiple users, measures, targets and miscellaneous data (Nudurupati et al., 2011; Braz et al.,2011). Changes in environments and conditions result in changing the requirements on measurement and management systems (Rylkova and Bernatik, 2014). In their research, Marinho and Cagnin (2014) concluded that "inclusion of Future-oriented Technology Analysis (FTA) would have prevented some of the failures experienced". In other words, a dynamic and flexible PMS, would reserve some space for future changes and expansion.

2.12.4 Clarity of objectives

Based on the organisation's strategic objectives in achieving the correct direction and also this fact that a PMS has a multiplicity of internal and external users (such as employees and managers, investors, customers, supplies, government and other authorities, banks, competitors, interest groups, public, media, etc.) it is important that the purposes and objectives of the PMS is clarified to understand who uses the information, and why and how the information is used. Generally, objectives should be precise and unambiguous, operational (capable of being met), measurable, positive (and not negative). But more specifically, the key strategic objectives of a successful PMS are: 1) Serve as the primary tool for implementing organisational goals and strategies; 2) Integrate and align the objectives and key metrics of the organisation vertically and horizontally through all job categories and levels including management. In this way the entire system works together in pointing towards the critical bottom line measures, with bottom line results following as a matter of course (What gets measured gets done); 3) Facilitate continuous performance improvement, organisation development and culture change; 4) Attain the quality and efficiency. In the other words, fulfil the customer's needs as precisely, quickly and cheaply as possible; 5) Clear ambiguity concerning work expectations and standards, reducing job holder stress, resource wastage and conflict; 6) Continuously enhance staff participation through the identification of outcome-related training and development needs and strategies; 7) Reduce Line Manager reluctance and fear to do Performance Appraisals with their employees; and 8) Facilitate performance-based remuneration and rewards, so staff can see and experience a clear link between their performance and the rewards they receive (Gresse, 2004).

2.12.5 Correct strategies

Strategy is the principal idea, approach or plan of action selected to accomplish the objectives. Correct strategies ensure that all noses within the organisation are pointing in the same direction (Flapper *et al*., 1996). Well defined objectives with wrong strategies would not obtain the expected results. PMSs with different objectives require different appropriate strategies at different levels for each objective. But it should be noted that PMSs' strategies generally must be in the same way of the organisation's strategic direction. In other words, they should support the overall organisational strategy. Also, as employees have greater in-depth experience and knowledge of their relative departments than the top-management, therefore, their involvement of the strategy ensures the effectiveness of the correct strategy (Thompson and Strickland, 2003). Successful strategies guarantee the success of the PMS.

But recognising which strategies are successful and which are not, requires: 1) First, a framework to identify, develop and manage the strategies; and 2) Second, strategies are tested, analysed and negotiated as the data becomes available from the PMS. PMSs with more specific strategies are more successful. Furthermore, strategies should be compatible with the PMSs simplicity/complexity. In other words, small or undeveloped PMSs need simple strategies, while big or developed systems need more complex strategies.

2.12.6 Alignment

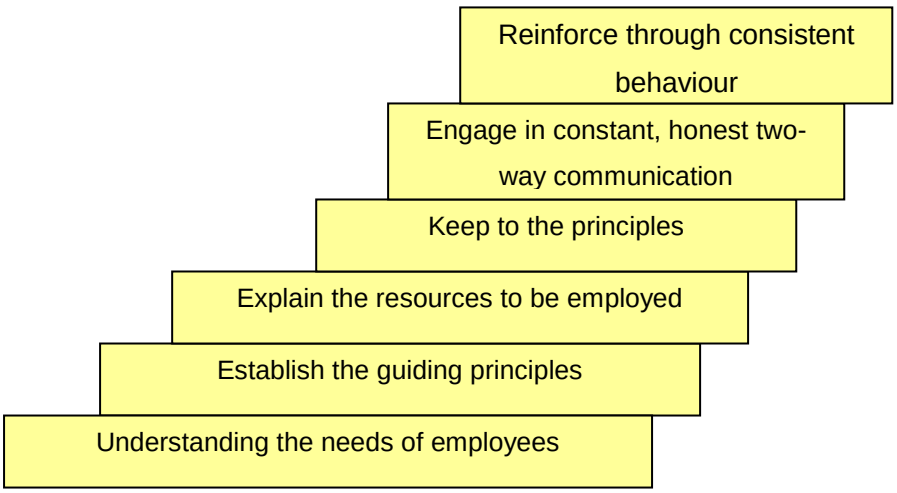
In order to be successful, the PMSs not only must recognise the priorities and objectives of the organisation, but also must be aligned especially with strategic objectives. For this reason, in the first instance, organisations need to be clear about their goals and objectives. Goals are general and provide a framework for the strategic objectives. The PMS will therefore have a hierarchy of objectives, plans and indicators, reflecting the structure of the organisation. Not aligning the PMS with the other existing systems will create parallel, non-integrated and resource-wasting systems. Successful PMSs try to align all parts of the organisations as much as possible. Of course, it is extremely difficult to get everyone pulling towards the organisation's direction and focussing on the same objectives. No matter what the direction is, but the important issue is that when all the parts of an organisation are aligned and move in the same direction, the system gets an incredible power. Needless to say that it is the managers' responsibility to illustrate the direction and help everyone in the organisation to know exactly what is most important.

2.12.7 Employees' participation and trust

Employees' participation plays a great role in the process of the PMS within all organisations with different lines of missions, goals and activities. It could strongly be claimed that there is no chance for the success of a PMS without proper participation of employees. This is because of that all operations are managed by employees who are committed to achieve the objectives of the organisation and, in exchange, it is vital to consider their attributes and expectations which play a significant role in their motivation and performance. Zairi (1994) stresses the human factor lays at the heart of the performance issue. Also, according to Beer (1997), organisational and human elements play a great role in using the technical or structural solutions which the research and theory did not incorporate. Hence, human issues appear to be a "make or break" factor in the success of PMSs. This is the very critical issue which often is forgotten within the organisations. A properly established PMS, not only will provide employees throughout all the organisation with clear goals and objectives and their

tasks of how they relate to the overall success of the organisation, but also it practically involve them with the activities and provide the conditions for their participation as a loyal support to the system. On the other hand, gaining employees' participation is only possible by firstly gaining their trust. Thus, building trust in the organisation is an essential precondition for a PMS operating efficiently. It is the basis of strong relationships and will increase the mutuality, efficiency and productivity. Since it is crucial to the success of the organisation to reach its objectives, so it is worth of allocating a lot of time, efforts and resources to build or rebuild the employees trust within the organisation. In case of the lack or poor trust, there would be no good working relationship and hence cooperation will end up under formal tough procedures in a not healthy climate which finally result in the failure of the system. Turner (2002) points to a several benefits of building trust during the implementation of the BSc. They are: 1) Increased employee trust in management; 2) Improved quality of work; 3) Employee commitment to the use of the BSc; 4) Improved employee satisfaction; 5) Ability to meet stakeholder expectations; 6) Improved productivity; 7) Increased value; 8) Increased access to new capital; and 9) Increased number of long-term investors. Several models have been proposed for building trust in an organisation. One of them is Goodman's trust-building model (Goodman, 2001) which consists of 6 steps that an organisation has to take to (re)build trust (Figure 2-6). This model seems to provide clear and detailed steps that in practice is relatively easy for an organisation to implement (Waal *et al*., 2005).

Figure 2-6: Goodman's "Trust-building model"



Source: Adapted from Goodman (2001).

As a case, Waal *et al*. (2005) conducted a survey during the implementation of a PMS (BSc) in s mining company in Zimbabwe. In their research they designed a revised trust-building

model based on the Goodman's model, called 'trust-building cycle', and used during the implementation of a BSc. Their findings showed that employees' trust was an important factor for the successful implementation of far-reaching changes, such as introducing a new performance management system like the BSc. Moreover, the employees were unanimous in their opinion that all stages of the trust-building cycle helped them regain trust in the BSc.

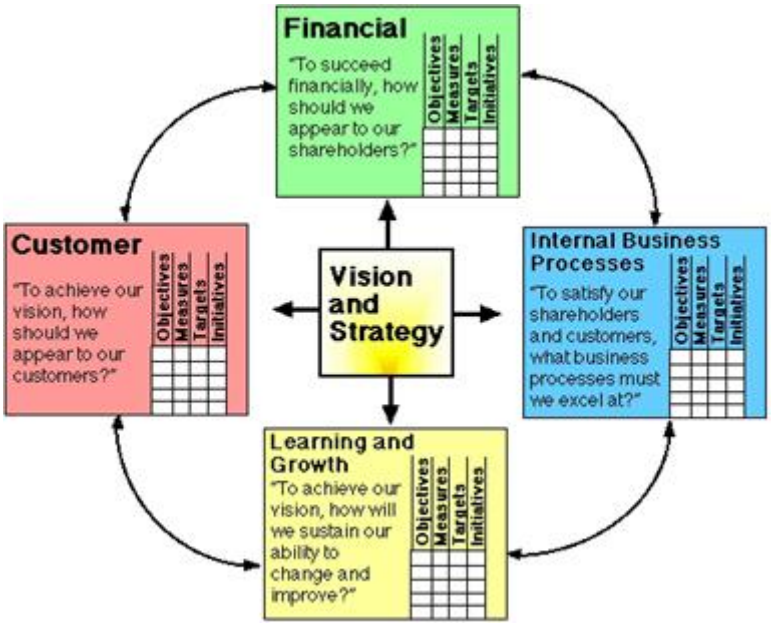
2.12.8 Getting feedback

Knowledge of results (feedback) is an integral part of a dynamic successful PMS to make sure if the goals and specific objectives of the organisation are to be achieved. Although feedback may exert its main effect through providing the organisation with information, it may also itself have motivating properties. PMSs cannot be static in nature, as conditions of the organisations are subject to change over time. Waggoner *et al*. (1999) mentioned PMSs are constantly evolving and identified the following 4 categories of influences that could influence the evolution and transformation of the PMSs: 1) Internal influences; 2) External influences; 3) Problems related with the process; and 4) Issues related with the changes that happen in the organisation. It is almost impossible to evaluate the performance of a person, division, department or the organisation as a whole, without having feedback. Decision makers don't exist in operations so they need feedback. A measure of how effectively the system which has been implemented is the degree to which synergies are achieved in organisational performance. The reason is that all employees work towards the same goals and objectives. Lessons learned from the review at feedback phase, hale organisation assess current performance level and understand the impact of its decisions and actions, and make the necessary changes so that future actions become more efficient and effective. Principally feedback should aim to enhance the performance of the organisation. It also should be timely, detailed, efficient, inclusive, positive not fear, and realistic. However, the optimal timing, frequency and amount of feedback are at present somewhat uncertain. Feedback is used mainly to aim the 3 main questions: what is going well? What is not going well? and what are the possible areas for improving? (Lee, 2007). Some other detailed questions which should be answered by the PMSs are: Are the organisation's strategies working? Has the organisation's environment changed? Have key performance indicators been chosen correctly?

2.13 Balanced Scorecard (BSc)

One of the above mentioned performance measurement frameworks, is Balanced Scorecard (BSc) which firstly introduced by Kaplan and Norton (1992). It originally was considered as an improved PMS, but very soon was unveiled that it could be used as a performance management system to implement strategy at all levels by helping the organisation to: 1) Clarify its strategy; 2) Communicate strategic objectives; 3) Plan, set targets, and align strategic initiatives; and 4) Get strategic feedback and learn from it. It is now conceived as a multidimensional framework which explicitly evaluates the success of an organisation by employing and balancing performance metrics from financial (e.g., cost of manufacturing and cost of warehousing), customer (e.g., on-time delivery and order fill rate), business process (e.g., manufacturing adherence-to-plan), innovation and technology perspective (e.g. new-product development cycle time). By combining these different perspectives, the BSc helps the organisation to understand the interrelationships and trade-offs between alternative performance metrics and leads to improved decision making (Aramyan *et al*., 2006). One of the more important features of the BSc is that it combines both financial and non-financial metrics simultaneously through a 4-dimension performance matrix and gives a clear balanced view for the present and the future of the performance of the organisation. The BSc is the product of the chosen metrics and KPIs of each perspective times the statistical weights of each indicator. Based on Rohm (2008), BSc is like a journey, not work on a project. It has two phases: 1) Building the BSc. This phase has six steps to build an organisation's BSc; and; 2) Implementing the BSc. This phase also takes an additional three steps to implement the BSc system throughout all levels of the organisation (developing phase). Rohm and Habach (2008) emphasise when the BSc is built**,** the organisation should be careful not to go back to business as usual and must work hard to cut off attempts to revert to old ways. These issues are vital to the success of a BSc system. Figure 2-6 shows the BSc framework.

Figure 2-7: Balanced Scorecard framework



Source: Adapted from Kaplan and Norton (1996, p.76).

The BSc has evolved since its emergence from a basic "performance measurement framework" to a "full strategic planning and management system". "…The new balanced scorecard transforms an organisation's strategic plan from an attractive but passive document into the marching orders for the organisation on a daily basis…It provides a framework that not only provides performance measurements, but helps planners identify what should be done and measured. It enables executives to truly execute their strategies" (Balanced Scorecard Institute, 2011).

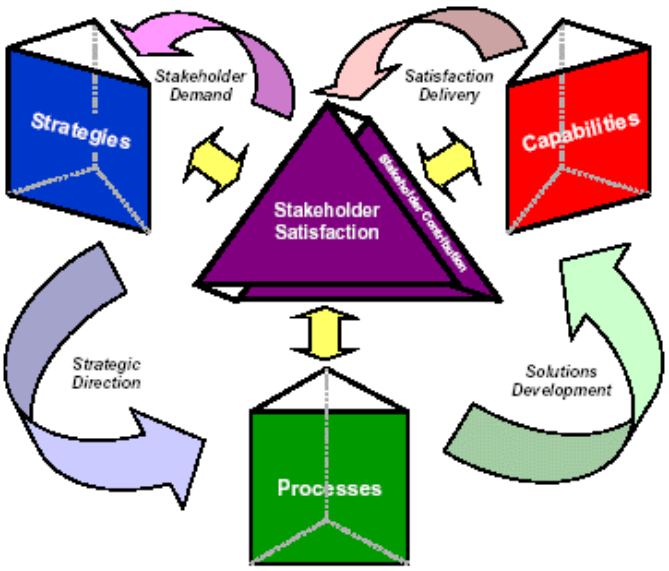
2.14 The performance prism

The performance prism is a five facets three dimensional performance measurement and management framework which was firstly introduced by Neely, Adams, and Kennerley (2002). It is actually a second generation framework developed by an innovation approach. They believed that if organisations (both for profit and not for profit) wish to survive in the long term, they have to think about all their stakeholders' wants and needs and attempt to deliver them appropriate value. They further proposed a framework called the Performance prism "which is structured to throw light on the complexity of an organisation's relationships with its multiple stakeholders within the context of its particular operating environment. It provides an innovative and holistic framework that directs management attention to what is important for long term success and viability and helps organisations to design, build operate

and refresh their performance measurement systems in a way that is relevant to the specific conditions of their operating environment" (Neely et al, 2002).

The top facet Stakeholder Satisfaction and the bottom facet is Stakeholder Contribution. The other three side facets are Strategies, Processes and Capabilities. These five faces, as five perspectives on performance, have been incorporated in the form of a prism which illustrates the complexity of performance measurement and management. In the performance prism, the stakeholder satisfaction perspective is considered as the first perspective on performance. The second one is the strategies perspective. The processes, capabilities and stakeholder contribution are the third, fourth and fifth perspectives respectively. Figure 2-7 is an illustration of the performance prism framework.

Figure 2-8: Performance Prism framework



Source: Adapted from Neely et al (2002).

As it is obvious from the above framework, the performance prism seeks to integrate the five distinct but related perspectives of performance.

Neely (2008, p155) clarifies that: "In essence, the performance prism identifies five questions for organisations to address when defining a set of performance measures.

1- Stakeholder satisfaction: who are our key stakeholders and what do they want and need?

2- Strategies: what strategies do we have to put in place to satisfy the wants and needs of these key stakeholders?

3- Processes: what critical processes do we need to operate and enhance those processes?

4- Capabilities: what capabilities do we need to operate and enhance those processes?

5- Stakeholder contribution: what contribution do we require from our stakeholders if we are to maintain and develop these capabilities?"

The above five perspectives provide a comprehensive and integrated framework for organisational performance management. Answering related questions will also help organisations build a structured business performance model and create stakeholder value. In the performance prism, results (stakeholders satisfaction) are a function of determinants (the other prism, facets). By emphasising on the multidimensional nature of the performance prism framework, Neely (2008, p156) claims that: "This enables a balanced picture of the business to be provided, highlighting external (stakeholder) and internal (strategy, process and capability) measures, as well as enabling financial and non-financial measures and measures and measures of efficiency and effectiveness throughout the organisation". Lastly, the performance prism is a very flexible model which can be used in many different environments and for various functions or processes.

2.15 Performance prism versus Balanced Scorecard

One of the critiques to the BSc is that it downplays the importance of other stakeholders, such as suppliers and employees. This incompetence and concern has been addressed in the performance prism model. In other words, the advantages of the performance prism over other frameworks are "it addresses all of an organisation's stakeholders, principally investors, customers and intermediaries, employees, suppliers, regulators and communities. It does this in two ways: by considering what the wants and needs of those stakeholders are and, uniquely, what the organisation wants and needs from its stakeholders. In this way, the reciprocal relationship with each stakeholder is examined. The performance prism then addresses the strategies, processes and importantly the capabilities that are needed in order to satisfy these two critical sets of wants and needs" (Cranfield Centre for Business Performance, 2012).

2.16 Why Balanced Scorecard is successful / popular?

At present BSc has proved to be the most popular and practical framework. Evidence on the success of the BSc has been reported across many organisations in the US (Hepworth, 1998). Being comprehensive, BSc has become a powerful and effective management system for the implementation of strategy. It is very flexible and can be applied successfully to a variety range, from small private to non-profit and governmental, of organisations. Neely (2002) also acknowledges the BSc framework for its strength of linking different dimensions

of performance measurement to the organisational strategy and integrating the four ways of looking at performance of the organisation. Rohm (2008, p. 8) claims: “A BSc system provides a basis for executing good strategy well and managing change successfully…it will cause people to think differently (more specific) about their organisation and their work…it will also bring change in the way things are done, as new policies and procedures are developed and implemented…the BSc journey involves changing hearts and minds…”. Many organisations over the last decade have adopted are in the process of implementing the BSc to help them execute their strategies and monitor their performance and they have succeeded dramatically. The BSc gives a way to get the organisations focused. And focus is what makes the difference. The bottom line for a BSc is that organisations can successfully execute their strategy and provide an integrated evaluation of performance. It also addresses the real measures related to staff and makes a sound communication to all employees. But it only works if there is a continuous communication. One of the main benefits of BSc is that it makes all parts of the organisation go in the same direction and it makes the organisation so incredibly powerful. But it is necessary to be mentioned that BSc, like any other system, is not perfect. It does not work magic and has its own minus and plus. When a BSc system is established, it will not automatically work. Lots of other issues (like setting targets, benchmarking performance, doing surveys, making judgment, etc.) should be done to make the BSc work. It is still not enough for very important strategic decisions and other techniques should be used as well. If it is not employed well, it will fail. Schneiderman (2006) propounds six factors as main reasons for the failure of the BSc: 1) The non-financial variables are incorrectly identified and given disproportionately more weight as the primary drivers; 2) The measures are poorly defined and goals unrealistic; 3) Improvement goals are negotiated rather than based on business strategy, fundamental process limits, and process improvement capabilities; 4) There is no deployment system that cascades high level objectives down to the sub-process level where actual improvement activities reside; 5) No improvement system used in response to missed measures; and 6) There is misalignment between rewards and desired behaviours.

2.17 Higher education: aims and importance

The functions of universities as places of training are not new. One of the main functions of early universities was to train young people for particular vocations. For instance, preparation for the priest-hood, teaching in law and medicine were also available in learning centres during the Greek era. Today, more than ever, the higher education (HE) has faced a great demand and it continues to grow worldwide. Universities play a great role in promoting economic development in countries. They have also become complex due to the

advancement in technology, science and communications, growth in the number of private and public universities and competition. "…over the centuries of evolution of the university system, the fundamental role has not changed, that is to preserve, transmit and extend knowledge" (Clarke et al., 1984).

Nowadays, more than ever, the role of universities across the world has become more subservient and dominant in the wide process of developing socio-economic at all local, national, and/or supranational levels (Hölttä 2000; Charles 2003; European Commission 2003).

The United Kingdom National Committee of Inquiry into Higher Education (1997) in the Report of the National Committee of Inquiry into Higher Education has mentioned: "The aim of higher education should be to sustain a learning society. The four main purposes which make up this aim are:

• to inspire and enable individuals to develop their capabilities to the highest potential levels throughout life, so that they grow intellectually, are well equipped for work, can contribute effectively to society and achieve personal fulfilment;
• to increase knowledge and understanding for their own sake and to foster their application to the benefit of the economy and society;
• to serve the needs of an adaptable, sustainable, knowledge-based economy at local, regional and national levels;
• to play a major role in shaping a democratic, civilized, inclusive society".

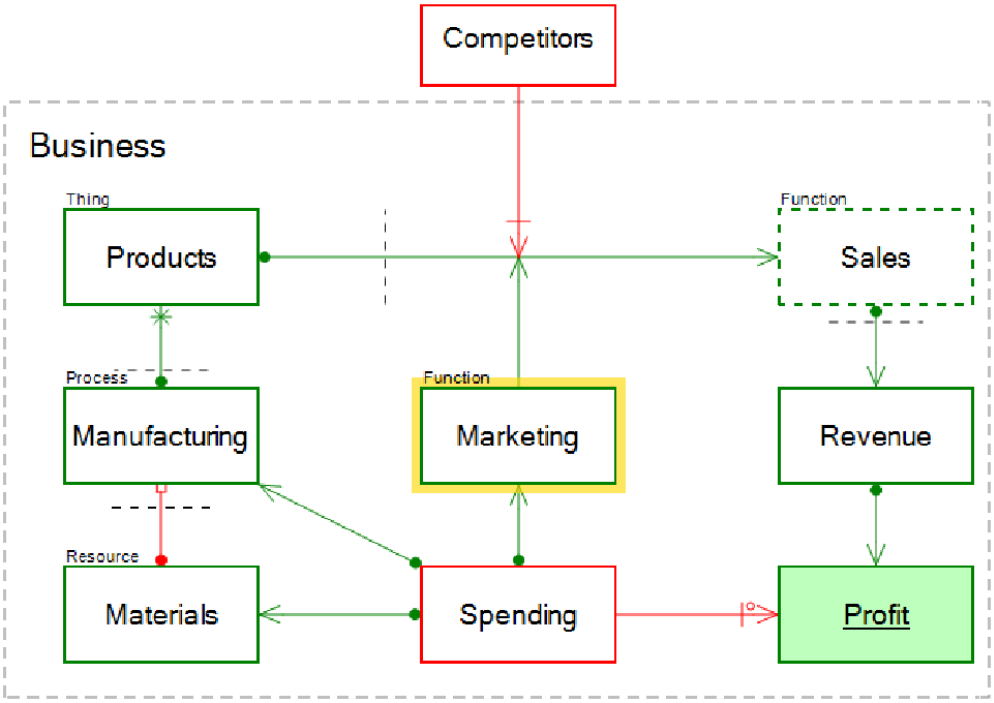
The stakeholders of universities include a wide variety of different groups ranging from, students, staff, alumni, parents, government, faculty, users, donors, and community (Ruben, 1999; Stewart and Hubin, 2001; Grayson, 2004; Umashankar and Dutta, 2007). Although, their all common goal is to produce graduates who are willing to serve the society, but each stakeholder has its own different perspective which requires different consideration. Therefore, higher education institutions are expected to provide value to fulfil the interests of multiple stakeholders (Stewart and Hubin, 2001).

According to Bazargan (1999), management functions in higher education institutions (HEI) include: 1) planning; 2) organising; 3) directing; 4) monitoring and 5) evaluation). He further points out that among these functions, monitoring and evaluation activities play an important role, as they facilitate planning, organising and directing functions; as well as acting as a subsystem for quality improvement and quality assurance of a HEI.

2.18 Higher Education contexts, requirements and systems

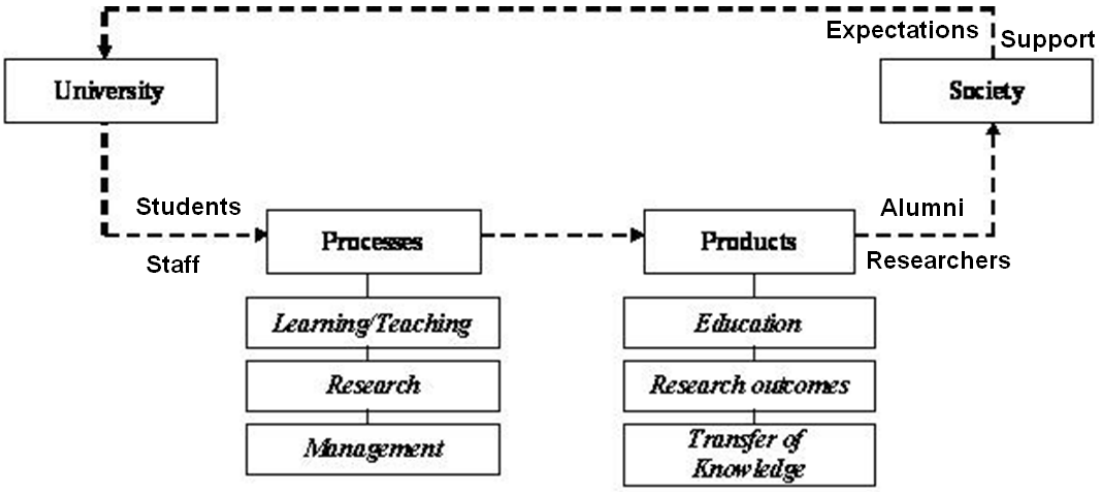
Universities are basically not- for-profit organisations which do not have similar structure or sophisticated systems due to the breath-taking competitions as many for-profit service and industrial organisations. But they are not nevertheless exempt from the demands for excellence and quality plus other challenges (globalization, information technology, fast changing environments, international educational collaborations, financial pressures, etc.) which makes them device new ways of management and overall performance assessment. The two following diagrams (Figure 2-8 and Figure 2-9) illustrate the environments of general businesses and universities.

Figure 2-9: A simple model of business



Source: Adapted from Burnett (2009)

Figure 2-10: A simple model of university



Source: Developed by the author

As it is obvious from the above models, the nature of aims and objectives, priorities and activities (inputs, processes, and outputs) are quite different in the two contexts. While businesses are concerned about their sales and profit maximization, universities are focused on research and educational services. As a result, the structures, management systems and many other aspects are different in HE then business contexts. Understanding such differences between the contexts should provide an rationale for adopting suitable systems and tools in HE environments.

2.19 Public universities typology

Fielden (2008) defines the legal status of public universities with a "spectrum of positions ranging from tight control over them by the state to their enjoying full independence and autonomy". Table 2-6 represents four different models (from tight control to full autonomy). It should be noted, these models are just four simple pictures and there are, however, many other possible situations in practice. The other issue is, even within the State Control model, due to many financial and practical reasons, there has to be some freedom as the Ministry of Education (MOE) cannot control everything, and within the Independent model there is an implicit acknowledgement that the ministry has the authority to hold the university accountable in many respects and must retain overall strategic control over the sector.

Table 2-6: Four Models from Control to Autonomy

Type	Governance Model	Public universities can be:	Example(s)
1	**State Control**	Can be agency of the Ministry of Education (MOE), or a state-owned corporation	Malaysia
2	**Semi-Autonomous**	Can be agency of the MOE, a state-owned corporation or a statutory body	New Zealand, France
3	**Semi-Independent**	A statutory body, a charity or a non-profit corporation subject to MOE control	Singapore
4	**Independent**	A statutory body, charity or non- profit corporation with no government participation and control linked to national strategies and related only to public funding	Australia, United Kingdom

Source: adapted from Fielden (2008).

Neave and Van Vught (1994) in a study on the government-universities relationships, specified two opposite models. One model is a “state control model” where the government tries to control its universities, and in the second model which is called “state supervising model”, the government monitors and regulates them.

2.20 Universities governance

Governance is all about steering, not rowing (Gillies, 2011). Universities’ core businesses are education (including teaching and learning) and research and as such, governors in higher education contexts are mainly responsible for steering ultimate education-research purposes. They also may need to steer and direct other consequential affairs (e.g. social activities, responsibility, employability, community engagement, etc.). Hence, governing a university is not an easy task at all.

Governance in universities refers to the means by which universities are formally organised and managed. The “university governance” is in fact a much broader issue than just the activities of the board of governors. It can include government rules and regulation; expectations and requirements by the external stakeholders; university internal structure and decision making process; academic self-governance; managerial self-governance; competition within and between faculties and departments. As a key concern, the boards of

trustees and governors must address the guarding and oversighting responsibility to retain the trust and confidence of all the stakeholders.

University's external and internal governance is concerned with the way that stakeholders or governing bodies plan and direct university. The term "governance" refers to all those structures, mechanisms and processes that are involved in the activities and direction of the university and its environment.

(Gillies, 2011) mentions several different groups of competing stakeholders who have interests in universities: 1) Students (who require good-quality education and exciting social experiences); 2) Businesses (who want well-educated employees and to supply services); 3) Academic and non-academic staff (a s the greatest institutional investment who expect to get on with delivering the core business or supporting that delivery); 4) The community (which wants an intellectual, possibly entrepreneurial, hub); 5) The bureaucracy seeks "value for money", while governments want policy outcomes and so to be re-elected. There are also other stakeholders, such as alumni, parents, the broader community,

2.21 Performance measurement and management in Higher Education

Higher education, like other businesses, accepts and welcomes measuring excellence. "Rather than emphasising financial performance, higher education has emphasised academic measures" (Umashankar and Dutta, 2007).

As the demand for HE continues to grow and as governments acknowledge their role in promoting economic development, it becomes increasingly important to ensure that higher education systems are managed in an effective way. Higher education systems are also getting more complex due to the growth in the number of public and private institutions, so that the task of managing and monitoring the sector is becoming more specialised and demanding. As a result of which, the old model of total control from a central ministry of education (MOE) is proving unsustainable in the long term and is being replaced throughout the world by other models. These alter the mode of central involvement from one of detail to that of strategy and rely on more sophisticated forms of monitoring and performance review.

Watson (2007, p.1) has addressed a number of various pressures (Conservative and radical, Critical and supportive, Autonomous and accountable, Private and public, Excellent and

equal, Entrepreneurial and caring, Certain and provisional, Traditional and innovative, Ceremonial and iconoclastic, Local and international) that modern universities have received in accordance with “an international convergence of interest on issues about the purposes of universities”.

Universities have also faced an increasing emphasis and pressure on improving their performance and accountability. This fact puts a great pressure on them to cope with the new roles and expectations. These issues make it obvious that higher education systems should ensure they performed and are managed efficiently and effectively. Furthermore, the old traditional tools of controlling and monitoring tools are outdated now and requires more up to date and sophisticated forms of performance review. As a result, universities have started to implement and develop their explicit strategies and performance measurement systems to address this concern and tackle their poor performance. As a part of their strategy, universities should retain and employ the right calibre of staff who are willing to respond to the changing challenges in the environment, and by establishing an effective performance management system which covers all the organisational levels, create competitive advantage and success. It should be emphasised mechanistic approaches to performance measurement and control for the systems involving people are not appropriate (Berry and Otley, 1996).

The higher education sector could have the autonomy to develop systems to support their performance from an internal perspective. Such internal performance systems were reported as amorphous (Broad, Goddard & Von Alberti, 2007; Broad & Goddard, 2010). Such systems, arguably, do not have to be taken from the private sector to fit a directive but can evolve, more naturally, to meet the needs of the institution (Broad, 2011).

The evolution of performance systems within higher education is currently under-researched. In another study, Modell (2004) investigated the Swedish higher education sector and concluded that the evolution of performance systems is complicated by the competing resource allocation systems and that the linkages between formally stated goals and performance indicators are weak.

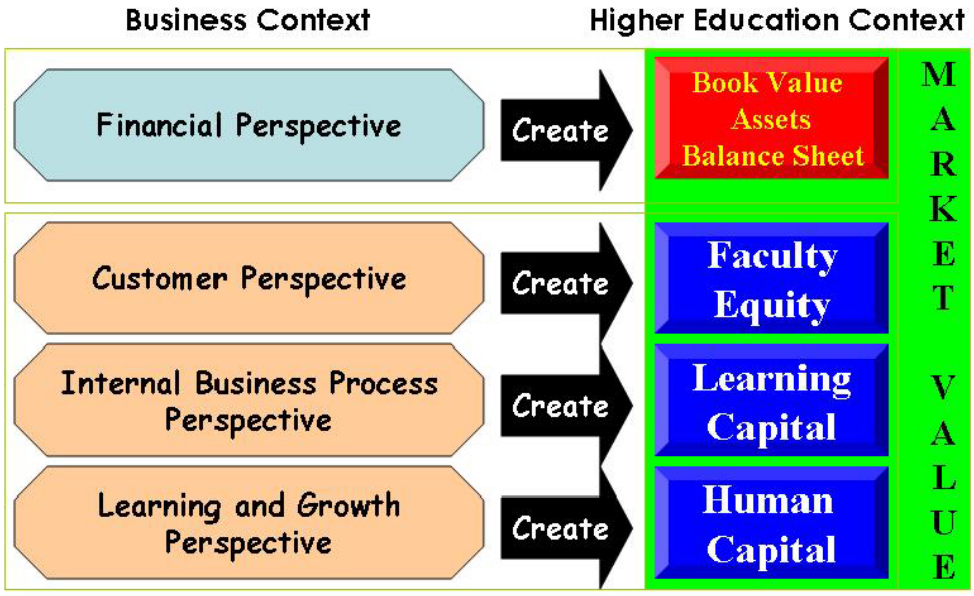
In a very recent study, Daraio et al. (2015) have provided a new generation of PMS used specifically for universities for ranking them, using a multidimensional approach. They addressed four main criticisms of university rankings, namely: “mono-dimensionality; statistical robustness; dependence on university size and subject mix; lack of consideration of the input– output structure”.

2.22 Balanced Scorecard in Higher Education contexts

BSc can be designed and well implemented in Higher Education (HE) as well, subject to adjustments. Some adaptations and alternations (including perspectives' architecture) of the original BSc should be adjusted to the specificities of the HE environments. BSc is considered as a strategic management tool within higher education (Chen *et al.*, 2006; Umashankar and Dutta, 2007). In other words, since a HE context is different from a business or production environment, therefore, the four perspectives and terminologies change in a HE environment. This is the case in developing countries as well (Waal, 2007; Indrianty, 2012).

According to Devie and Tarigan (2007), in a HE context, the "learning and growth", "internal business process", and "customer" perspectives turn respectively into "human capital", "learning capital", and "faculty equity" perspectives. The following diagram (Figure 2-10) shows this flow.

Figure 2-11: BSc perspectives change in HE contexts



Source: Adapted from Devie and Tarigan (2007).

Robert Gordon University has started using the BSc since 2003. The university's organisational development manager, Neville Browne, advocates their approach by saying: "As a post-92 university we seem to have a culture that is relatively happy with this approach. The Balanced Scorecard and its contents should be known to all employees; they can view it on the website at any time – it's a tool that's 'open' in that sense. We know from

our employee survey, how staff feel about key issues and, as a consequence, we feel we know how our approach will 'fit'. We are a university that has some clear focus areas, so having a way of 'starting at the top' with strategic direction and measurement of progress and with enough appropriate staff engagement and involvement in the process, seems to work for us" (Thackwray et al., 2005, p.3).

Stewart and Carpenter-Hubin (2001) showed how BSc, as a strategic approach to assessment, can be adopted to HE context, which is demonstrated in Table 2-7. In their work, however it is acknowledged that translating the complex world of academia onto the BSc is quite a challenging task. One of the challenges is the concerns exist about quantitatively measuring a university's performance.

Table 2-7: Example of the BSc and associated objectives

	Objective	Indicator
Diversity: How well do we broaden and strengthen our community?	Increase campus diversity	Percentage of students, staff, and faculty by gender and ethnicity
	Provide better disability access	Inventory program needs as baseline; improvement over time
Student learning experience: How effectively do we transfer knowledge to our students?	Improve student progress	Retention and graduation rates
	Increase student satisfaction	Higher Education Research Institute student survey data
	Improve graduate program quality	Graduate student placement
Academic excellence: What is our contribution to the creation of knowledge?	Increase research productivity	Counts of publications, citations, grants, and awards
	Heighten national reputation	Number of departments in top quartile of National Research Council rankings
Outreach and engagement: How effectively do we transfer knowledge to the local, national, and international communities?	Increase technology transfer activity	Number of licenses, patents, and invention disclosures; royalty income
	Increase outreach to community	Number of programs and services; number of people served
Resource management: How well do we develop and manage resources?	Increase and diversify revenues	Percentage of revenue by category over time
	Provide incentives for entrepreneurial initiatives	Number of science and technology campus partnerships

Source: Adapted from Stewart and Carpenter-Hubin, 2001, p. 41).

2.23 Use of performance indicators in universities

For the first time in the United Kingdom, a common set of performance indicators was published by the Higher Education Funding Council for England (HEFCE, 1999), on behalf of the four UK funding bodies, for all hundred seventy five publicly funded higher education institutions in the UK. In that report, three main purposes have been mentioned for performance indicators:

“1- Provide better and more reliable information on the nature and performance of the UK higher education as a whole, 2- Influence policy development, 3- Contribute to the public accountability of higher education.” (Balachandran and Balachandran, 2009).

It should also be noted that since 2002-2003 the Higher Education Statistics Agency (HESA) has published the performance Indicators on behalf of the HEFCE. Their indicators are based on student, staff and finance data returns and all the HE institutions have to report to the HESA every year. The HESA (2008) announced 5 main purposes of their performance indicators:

“1- Provide reliable information on the nature and performance of the UK higher education sector
2- Allow comparison between individual institutions of a similar nature, where appropriate
3- Enable institutions to benchmark their own performance
4- Inform policy developments
5- Contribute to the public accountability of higher education.”

The Performance Indicators Steering group (PISG) was established with membership drawn from government departments, the funding councils and representative bodies to address this. HEFCE will continue to develop the performance indicators under the auspices of PISG.

Later on and at the request of the UK government, the funding councils, government departments and representative bodies established the performance Indicators Steering Group (PISG) to develop appropriate indicators and benchmarks of performance in the HE sector.

HEFCE would continue to develop the performance indicators under the auspices of PISG (Balachandran and Balachandran, 2009).

Balachandran and Balachandran (2009) claim “performance indicators can best be used for internal university purposes to enhance the quality of education, research, community service and other functions”.

Sizer, Spee and Borman (1992) studied the experiences of developing and using performance indicators in government-institutional relationships in five European countries (Denmark, Sweden, the Netherlands, Norway and the United Kingdom) and found out that “the role of performance indicators in higher education depends on the political culture (can be geared to equivalence in the provision of educational opportunities and to variety in the educational system), the educational funding system (incremental or differential) and the quality assessment procedures (across the system or at comparative quality judgements) that determine the optimal allocation of resources in a particular country. They also realised that the steering mechanism (funding, quality assessment, etc.) used by governments, differed between countries as a consequence of national conditions (size, political culture of education, regional differences, etc.). Furthermore, they identified five core uses of performance indicators as: 1) Monitoring, 2) Evaluation, 3) Dialogue, 4) Rationalisation, and 5) Resource allocation.

According to Johnes (1996) since universities are naturally multi objective institutions, they need to develop multiple indicators. She further claims this can result in large quantities of information which are usually difficult to interpret.

Other performance indicators applications in universities can include “assessing the impact of educational reform, monitoring standards and trends, providing feedback to staff with a view to enabling them to develop and improve their practice, manipulating funding and assisting with the internal management, and routine monitoring of departmental and institutional performance” (Hattie, Adams, Tognolini and Curtis, 1991, p.6).

2.24 Theoretical perspective

Management accounting studies of performance management in the higher education sector are informed by different theoretical lenses (perspectives) such as agency theory, stakeholder theory, and institutional theory.

The next two remaining sections of this chapter provide concise descriptions of the theoretical foundation for analysis adopted in this study, institutional theory, and its

application in accounting research. A comparison of the emergent substantive theory as the outcome of empirical findings of this study with the literature (management accounting studies informed by the institutional theory) will be provided in chapter 9 of the thesis.

2.24.1 Institutional theory

Institutional theory refers to the fact that organisations are influenced by and can influence the society in which they operate (Meyer and Rowan, 1977; Meyer and Scott, 1992; Powell and DiMaggio, 1983, 1991).

Institutional theory itself is not a single theory but is rather an umbrella term for the contributions of various authors from different disciplines (Scott, 1987). The theory tries to dig deeper into the foundations of social structures. (Scott 2004, p. 408) mentions that institutional theory “looks into the processes by which structures, including schemas, rules, norms, and routines, become established as authoritative guidelines for social behaviour”.

Scott (2004, p. 2), one of the proponents of institutional theory, states: "institutional theory is broadly positioned to help us confront important and enduring questions, including the bases of organisational similarity and differentiation, the relation between structure and behaviour, the role of symbols in social life, the relation between ideas and interests, and the tensions between freedom and order".

According to Scott (1998) environmental pressures force an organisation to conform to the social and cultural worlds are central to the institutional theory. (Oliver, 1991) argues that within institutional influences, there are several invisible pressures on the organisation to attach to taken-for-granted rules and norms. Hannan and Freeman (1977) mention these pressures result from the selection process and only adapted organisations will survive. They further contend that organisations decide to be isomorphic with other successful organisations. DiMaggio and Powell (1991, p. 66) define isomorphism as “a constraining process that forces one unit in a population to resemble other units that face the same set of environmental conditions”.

Meyer and Rowan (1991, p. 41) claim that “formal organisations are complex networks of technical relations” this being organisations induced to incorporate taken for granted “rationalized concepts of organisational work and institutionalised in society”. Public sector entities are currently undergoing significant reforms, not to achieve greater economic efficiency but for the purpose of legitimising themselves to different forms of institutional pressure or influence (Lapsley, 1999; Hoque et al., 2004).

Burns and Scapens (2000) state that accounting research from the perspective of institutional theory can be informed by the old institutional economics (OIE), new institutional economics (NIE), and new institutional sociology (NIS) theories. These various variants of institutional theory "have their roots in different disciplines like economics, political science and sociology" (Burns, 2000, p. 571). The new institutional sociology has also been used by Modell (2003) but termed 'neo' institutional sociology.

The old institutional perspective is an approach that seeks to understand the institutionalised character of organisational processes, routines and rule-based behaviours. The OIE ""provides a potentially useful basis for understanding the institutionalised character of organisational routines and rule-based behaviours, such as accounting" (Ahmed & Scapens, 2000 p.167). The OIE has been used in accounting research during the 1990's.

The institutional theory allows for analysis at both the micro level (between the organisation and the external stakeholders) and macro level (within the organisation), which are shaped by institutional forces: coercive, mimetic and normative isomorphic processes (DiMaggio and Powell, 1983).

NIS is essentially the application of institutional analysis in sociology as proposed by DiMaggio and Powell (1983). NIS sees organisations as part of wider social and cultural contexts (see Greenwood and Hinings, 1996).

As Hussein and Hoque (2002) mention, NIS primarily deals with the interactions between organisational structures, practices, behaviours, and the wider social environment and expectations in which organisations operate. Furthermore, organisations are motivated to interact with their environment in ways perceived as appropriate by the various stakeholders for the sake of performance and maintenance of legitimacy (Dillard et al., 2004).

DiMaggio and Powell (1983, 1991) proposed three classifications of isomorphism: coercive, mimetic and normative isomorphic processes, which shape the behaviours and practices in organisations both at micro and macro levels. Coercive isomorphic processes result from both formal and informal pressures imposed on an organisation by other organisations upon which it is dependent as well as by the expectations of the public within which it operates. Mimetic isomorphic processes occur when organisations face high levels of uncertainty that engenders them to model themselves against other organisations that are perceived to be more legitimate. Normative isomorphism stems from professionalization and involves changes in an organisation resulting from professionalism that influences the behaviours of

the individuals working in the organisation. Normative pressures arise from specialised groups within a profession.

2.24.2 Application of institutional theories in accounting research

According to Scott (2001) institutional theory has had a rapid development in recent years, especially in the fields of political science, sociology and economics. However, institutional theory has also been increasingly used in different organisations and social settings to investigate the accounting phenomenon (Dillard et al., 2004).

Institutional theories have been dominant in recent years in the field of accounting, particularly management accounting studies. Regarding the management accounting discipline, areas have been considered include: performance measurement and management in various organisations, both in private and public sectors (Lawton et al., 2000; Modell, 2001,2003,2005; Hussain and Hoque, 2002), management accounting systems (Covaleski and Dirsmith, 1988; Burns and Scapens, 2000), management accounting changes in organisations (Burns and Scapens, 2000; Soin et al., 2002; Siti-Nabiha and Scapens, 2005; Moll et al., 2006), and cost allocation processes and techniques (Carmona and Macias, 2001; Carmona and Danoso, 2004; Ahmed and Scapens, 2003). As an example, Modell (2003) used NIS in his research to understand the processes by which performance indicators were established and evaluated in the Swedish higher education sector.

Institutional theory has also been increasingly used in other areas of accounting research, such as: budgeting in governmental organisations (Seal, 2003; Collier, 2001), the role of accounting in organisations and accounting regulations (Forgarty and Rogers, 2005; Broadbent et al., 2001; Kurunmaki et al., 2003), accounting and institutionalisation processes (Bums and Scapens, 2000; Dillard et al., 2004; Bums and Baldvinsdottir, 2005), and external auditing (Basu et al., 1999).

Generally, there are numerous studies which demonstrate institutional pressures (i.e. coercive, mimetic and normative forces) contribute to the development and/or adoption of new accounting practices in organisations (Hussain and Hoque, 2002; Lawton et al., 2000; Carmona and Macias, 2001; Carpenter and Feroz, 2001). Thus, the extant institutional theory literature proposes that accounting practices influence and are influenced by economic, political, regulatory and social environments, both within the organisations in which they are practised and in the wider external environment.

With regard to the above, there is an increasing emphasis that the institutional theory framework deserves more prominence in the management accounting research. The importance and necessity for conducting research in organisations having entirely new context is also well sensed. Institutional framework can be extended by studying case studies. No research has so far considered, in the light of institutional theory, the issues specific to the performance management of a university, in the presence and demand of two influencing stakeholders, in a developing country. This study fills the obvious gap in the literature. The case of a single affiliated university provides an opportunity to address this gap in the literature.

To summerize, this research employs insights drawn from institutional theory, the new institutional sociology (NIS) variant, for analysing the performance management phenomenon in a single affiliated university. The insights gained with the review of the literature in this chapter will be used to analyse the evidence relating to the University studied so that the less researched aspects of performance management as well as the ultimate performance in such environments are highlighted.

2.25 Summary

Synthesising the vast amount of research and ideas regarding performance management practices in higher education and condensing them into one chapter with the aim of introducing and reviewing the history and literature of the mentioned subject to the institutional researchers in this field was a great challenge.

This chapter has reviewed the literature on meanings of the concepts of performance, performance measurement and management systems and practices, especially in higher education environments. The literature has acknowledged the importance of these phenomena. The reviews have also uncovered that these concepts are subject to various interpretations and meanings. They are also subject to change in higher education contexts. In the process of the literature review a gap has also been noticed and addressed on building a successful performance measurement system. In this regard, eight critical success factors underpinning the success of a PMS were generated.

In the case of performance measurement and management, there is over two decades of literature and theory but this knowledge-base is still lacking; the phenomenon is hugely complex and multidisciplinary; and there is definitely a need for a richer understanding of

how organisational performance is actually conceptualised, measured and managed in higher educational contexts (universities).

Furthermore, institutional theory was considered as an appropriate theoretical foundation for this study to analyse the performance management phenomenon in the case university studied.

This chapter ends the literature review part of the research. The next chapters will provide empirical evidence of the University studied to seek the way such practices and processes are planned, governed, monitored, reported and influenced. The following chapter focuses on the research paradigm.

Chapter 3

Research Paradigm

"[…] Who believes that statistical empiricism can solve all accounting problems? Are not the many contradictions between theory and practice vivid evidence that in accounting we have not done enough to serve the practitioner, the stockholder and, above all, society at large? […] Don't they see that an applied science cannot be conducted in the same fashion as a pure science, or do they really believe that accounting is an instance of the latter? Accounting shows the major characteristics of an applied science (resting only on law statements of other disciplines; containing many norms; depending on cost/benefit considerations; and being researched at professional schools). Therefore a general framework of accounting requires more than a positive basis. But the normative extension (means-end relations, etc.) of accounting, though practised and taught informally, is neglected in conventional accounting theory." (Mattessich, 1995, p.279)

3.1 Introduction

In this chapter we examine fundamental theoretical and philosophical assumptions upon which this research within management accounting disciple is based. This discipline, like most others within the social sciences, is methodologically highly diverse. Hopper and Powell (1985), emphasise that social science researchers should ensure that underlying assumptions of their research are related to their own personal beliefs and values regarding the nature of the social world. The aim of this chapter is to make clear what those assumptions are and how they influence the methodological approach of the research process.

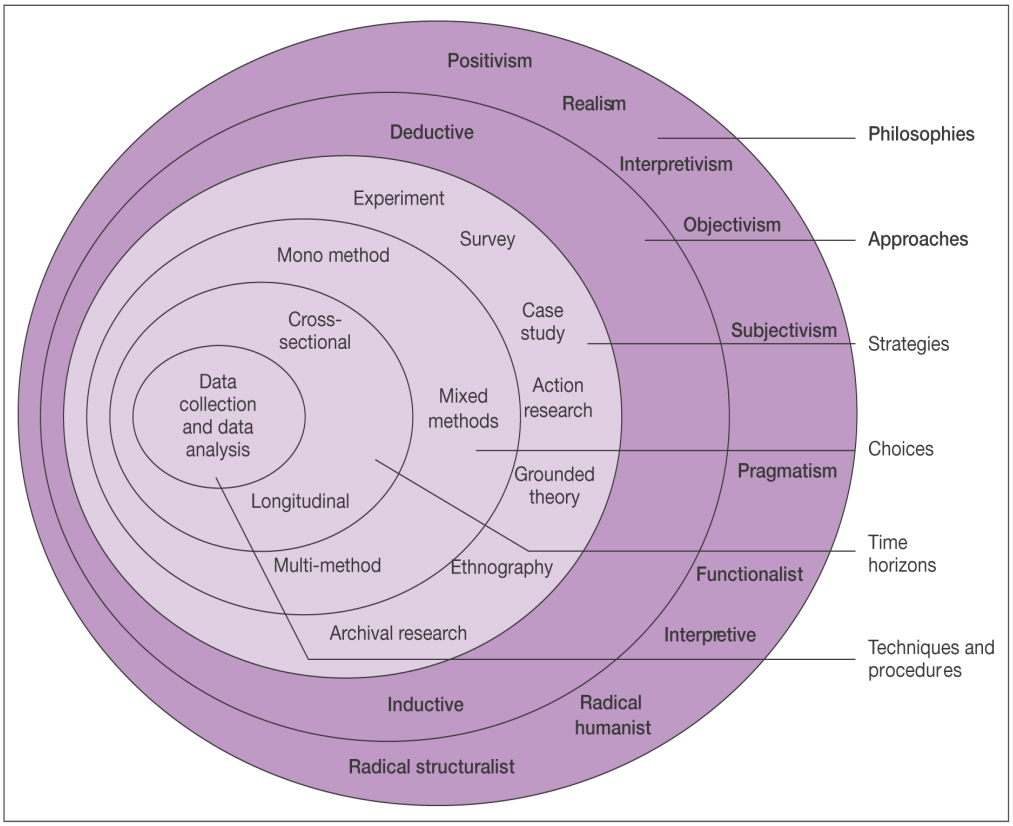
3.2 Research design

No research has meaning without appropriate design to validate its findings. Hussey and Hussey (1997, P54), define the research design as the overall approach to the research process, from the theoretical understanding to the collection and analysis of the data. Planning and execution of the research are critical components of research design. Saunders, Lewis and Thornhill (1997, P72) explain the benefits of research design as follows:

1-It helps the researcher to gain an overall configuration of the research process to ensure success.
2-Researcher makes an informed decision about the research methodology
3-It is useful to adopt the research design to cater for constraints and limitations
4-For the particular researches, it assists the researcher to determine proper research methods (appropriate research methods should help to explain the why's, how's and what's of the subject).

The research onion illustrated in Figure 3-1 below shows the different layers of a research indicating various aspects and dimensions of a research. As it obvious from the illustration, the philosophical positions, approaches and strategies, data collection and analysis techniques, and time horizon of a project must be clearly determined along with other considerations which should be precisely specified when conducting a research (Saunders *et al.,* 2007).

Figure 3-1: The Research Onion



Source: Adapted from Saunders *et al.* (2007, p.132).

As in this research we aim to investigate the performance related issues of a university and try to get an in-depth understanding in order to interpret this phenomenon which has not been previously researched, so this research is a qualitative approach research. This is consistent with Denzin and Lincoln's (1994, p. 2) definition of qualitative research, as they say: "Qualitative research is multi-method in focus, involving an interpretive, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret phenomena in terms of the meanings people bring to them. Qualitative research involves the studied use and collection of a variety of empirical materials – case study, personal experience, introspective, life story, interview, observational, historical, interactional and visual texts – that describe routine and problematic moments and meanings in individuals' lives." In this regard, in the following sections, we discuss about the paradigm, methodology and method of this research.

Creswell (1998, p. 15) provides the simple definition of qualitative research as follows: "Qualitative research is an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The research builds a complex and holistic picture, analyses words, reports detailed views of informants, and conducts the study in a natural setting".

Creswell (1994, p. 10) comments that: "For the qualitative studies the research problem needs to be explored because little information exists on the topic. The variables are largely unknown, and researcher wants to focus on the context that may shape the understanding of the phenomenon being studied. In many qualitative studies a theory base does not guide the study because those available are inadequate, incomplete, or simply missing".

Many scholars have distinguished qualitative research from quantitative research on the basis of their nature and characteristics (see Berg, 2003; Neuman, 2002; Creswell, 2003; Lichtman, 2006). The major qualitative and quantitative research assumptions are summarised and highlighted in the Table 3-1.

Table 3-1: Comparison between Qualitative and Quantitative Research

No.	Criteria	Qualitative Research	Quantitative Research
1	**Purpose**	To discover and interpret meaning and perceptions of social interactions.	To test hypotheses developed before research begins, look at cause and effects, and make predictions.
	Focus	Wide-angle lens, examines the breadth & depth of phenomena.	Narrow-angle lens, tests specific hypotheses.
2	**Group Studied**	Particular to the subject group. Smaller & not randomly selected. Replication is rare.	Larger & randomly selected. replication across different sites is possible
3	**Variables**	Study of the whole, not variables.	Specific variables studied
4	**Data Type**	Words, images, or objects.	Numbers and statistics.
5	**Data Collection Method**	Qualitative data such as open- ended responses, interviews, participant observations, field notes, & reflections.	Quantitative data based on precise measurements using structured & validated data-collection instruments.
	Data Analysis Type	Identify patterns, features, themes.	Identify statistical relationships.
	Research Scope	Particular to the subject group. Replication is rare.	Standardized so that replication across different sites is possible.
6	**Units of Analysis**	Subjects are selected to fit the purpose of the study.	Subjects are selected randomly.
7	**Objectivity and Subjectivity**	Subjectivity is expected.	Objectivity is critical.
8	**Role of Researcher**	Researcher & their biases may be known to participants in the study, & participant characteristics may be known to the researcher.	Researcher & their biases are not known to participants in the study, & participant characteristics are deliberately hidden from the researcher (double blind studies).
9	**Questions**	Are typically open ended, allowing flexibility in response.	Asked in such a way that the answers are a fixed set of choices
10	**Scientific Method**	Exploratory or bottom–up: the researcher generates a new hypothesis and theory from the data collected.	Confirmatory or top-down: the researcher tests the hypothesis and theory with the data.
11	**View of Human Behaviour**	Dynamic, situational, social, & personal.	Regular & predictable.
12	**Most Common Research Objectives**	Explore, discover, & construct.	Describe, explain, & predict.

13	**Contact with the Subject**	Research takes place in the field and involves face to face encounters with the subject	Research can take place without direct contact with subject, as in the case of telephone or mailed surveys
14	**Nature of Observation**	Study behaviour in a natural environment	Study behaviour under controlled conditions; isolate causal effects.
15	**Nature of Reality**	Multiple realities; subjective.	Single reality; objective.
16	**Final Report**	Narrative report with contextual description & direct quotations from research participants.	Statistical report with correlations, comparisons of means, & statistical significance of findings.
17	**Results**	Particular or specialised findings that is less generalisable.	Generalisable findings that can be applied to other populations.
	Role of theory in research	Inductive, generating theory	Deductive, testing of theory
	Ontological Orientation	Constructionism	Objectivism
	Epistemological Orientation	Interpretivism	Natural science model

Sources: Developed by the author. Some material from Johnson and Christensen (2008, p.34) and Lichtman (2006, pp. 7-8).

Qualitative methodology takes a descriptive, non-numerical approach to collect and interpret information, aiming at understanding the phenomenon. Kvale (1996) suggests that the qualitative approach entails alternative conceptions of social knowledge, of meaning, reality, and truth in social science research. Researchers attribute various advantages to using a qualitative approach. Berg (2001) hints that it provides greater depth of understanding. The author also claims that this procedure provides a means of accessing unquantifiable facts and seeks answers to questions by examining various social settings and those individuals who inhibit the settings. On the other hand, Babbie (2004) argues for qualitative method as an effective strategy for studying subtle nuances in attitudes and behaviour and for examining social processes over time. The author also cited flexibility and greater validity as vital advantages of qualitative methods.

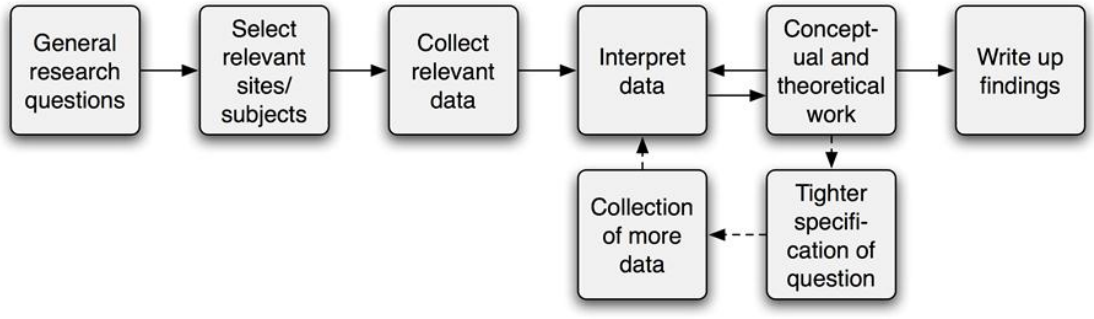
Many different opportunities present themselves for collecting qualitative data, such as case studies, personal experience, interviews, observations, and historical and visual texts (Denzin and Lincoln, 1994; Morse and Field, 1995; Symon and Cassell, 1998). In the context of the research questions of this study, case studies as units of analysis remain as obvious options, since in such a broad comparison possibility of interview and observation is nil. The source of data would be academic and research papers, books, various reports, statistics, historical and visual texts regarding the corporate governance systems around the world. A

survey (questionnaire) is also impossible as this method can produce very specific and sector-wide information regarding core elements or structures of corporate governance practices in a specific context and area, not around the world. Furthermore, the information secured by such an approach will be static, providing only an idea of the way corporate governance mechanisms are structured in that particular sector.

This study aims to explore the performance management subject which in itself, is a multidimensional issue. Methods never dictate the terms of their employment. Choices about methods are actually dictated by the research aims. Both Punch (1998) and Shulman (1988) insist that different questions require different methods to answer them. Due to the unique features surrounding the research questions and the contexts of this study, the application of qualitative rather than quantitative techniques is vital, as this approach aims at understanding a phenomenon through a descriptive, non-numerical route in the collection and interpretation of data. The flexibility of the process would also allow the researcher to understand the performance phenomena better since the real-life workings of performance management systems of different contexts vary across a wide range of issues and factors within the core elements.

This study is a qualitative type research project. The qualitative methods are suitable for this study as it tries to uncover the complexity and capture subjective meanings of a multi-dimensional, multi-layered subjective nature phenomenon (Denzin and Lincoln, 2008; Conger, 1998; Miles and Huberman, 1994). Figure 3-2 below is a general illustration of a qualitative research showing the steps in a qualitative research and "how the qualitative process is iterative with the going back and forth from data to sense-making or developing theory. It is flexible and can change direction easily" (Lander, 2008).

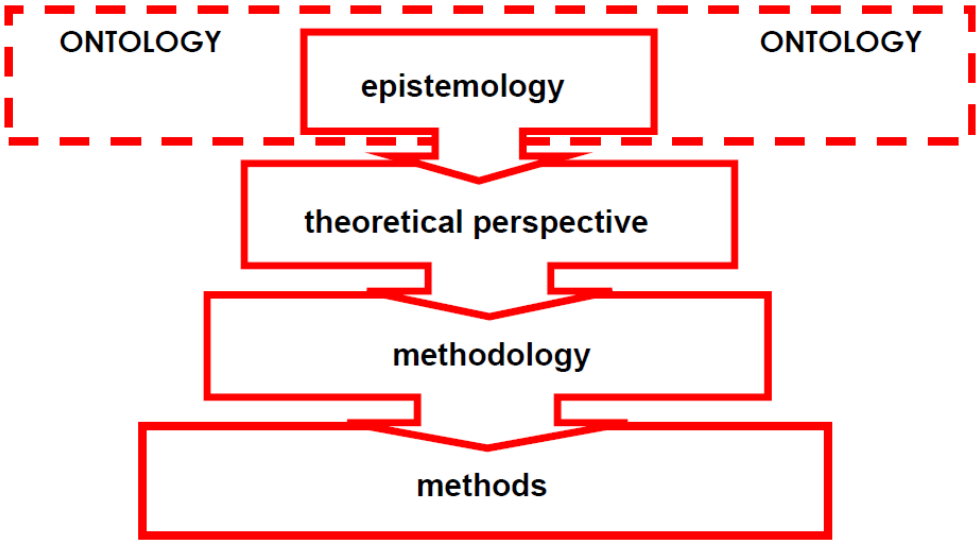
Figure 3-2: Steps in a qualitative research



Source: Adapted from Lander (2008)

Crotty (1998, p.4) has developed a framework, as a road map, to guide researchers of how to determine appropriate theoretical and practical approaches and methodologies to conduct research projects. Figure 3-3 illustrates the four elements of social research.

Figure 3-3: The Four Elements of Social Research



Source: Adapted from Crotty (1998, p.4).

Blaxter, Hughes and Tight (1996, p.15) advise about the bias issues in research where they say research "…is a social activity powerfully affected by the researchers own motivations and values. It also takes place within a broader social context, within which politics and power relations influence what research is undertaken, how it is carried out and whether and how it is reported and acted upon".

3.3 Research paradigm

The word "paradigm" usually elicits different meanings. According to the Free Dictionary's definition of paradigm, it is: "a set of assumptions, concepts, values, and practices that constitutes a way of viewing reality for the community that shares them, especially in an intellectual discipline." In this research, the focus is particularly on the words "assumptions" and "concepts" in the above definition.

In academic research, It is important for researchers to identify their research paradigm in a particular research project as this influences the questions they ask and the way they present their findings. "A paradigm is an overall conceptual framework within which a researcher may work" (Sobh and Perry, 2006, p. 1194). It provides a basic framework for a

research or investigation to take place. According to Maykut and Morehouse (1994, p. 45) a paradigm is "a set of overarching and interconnected assumptions about the nature of reality". These assumptions are the most important feature in understanding nature of reality. Punch (1998, p. 28) also added that paradigm is a complex term and defined it as "a set of assumptions about the social world, and about what constitute proper techniques and topic of inquiry. In short it means a view on how science should be done". Strauss & Corbin (1998, p. 123) also define paradigm as: "An analytic tool devised to help analysts integrate structure with process".

3.4 Philosophic foundation of research framework

As Burrell and Morgan (1979) declare, the basic idea of organisation's theories is based on the "philosophy of science and a theory of society". The four sets of assumptions of social science that Burrell and Morgan (1979) have identified are "*ontology, epistemology, human nature and methodology*". In this research, their book is the main source in understanding the concept of research framework in social sciences.

3.4.1 First dimension – the nature of social sciences

Ontology refers to the nature of phenomena under intense investigation or study. Crotty (1998, p10) defines the o*ntology as: "the study of being. It is concerned with 'what is', with the nature of existence, with the structure of reality as such*". In his framework, ontology and epistemology sit alongside but do not merge.

In philosophy, there are two alternatives of seeing the world: 1) the natural world exists regardless of whether we, as human beings, are conscious of it; and 2) the social world exists, albeit in various guises, such as institutions, networks, tribes or nations.

The second assumption is *epistemology*; it is inter-connected with the first assumption. Klein (2005, p.1) has considered epistemology as: "*one of the core areas of philosophy… concerned with the nature, sources and limits of knowledge….primarily concerned with propositional knowledge, that is, knowledge that such-and-such is true, rather than other forms of knowledge, for example, knowledge of how to such-and-such"* This knowledge would constitute how one can determine truth or falseness. It depends entirely on the nature of knowledge itself as "hard" or "real" and able to be acquired or "soft" based on the

uniqueness of individuals' experiences. . The term epistemology (what is known to be true) as opposed to doxology (what is believed to be true) encompasses the various philosophies of research approach.

The third assumption, *human nature* is connected with the "relationship of human beings and their environment". On one corner, man and his experiences are regarded as the "product of environment" while on the other extreme, he is considered to possess "free will" or choice to create his own environment.

All the three assumptions above have a link and direct impact on the *methodological* nature especially in obtaining knowledge in order to understand the social world. Different set of ontology, epistemology and human nature would lead to different methodology being applied by social researchers. If the social world were treated as hard, real and external, the main focus would be on discovering and expressing the relationship and regularities between various inherent elements.

People can construct different meanings and perceptions of reality and interpret it in different ways. However, the way they interpret reality can be influenced by a myriad of various factors, such as: personal characteristics (gender, race, age, etc.); underlying economic structures of the societies (Marx, 1818 - 1883); certain values, morals or religious beliefs (Durkheim, 1858 - 1917). Conversely, in Weber's opinion (1864 - 1920), people who can influence others through their thoughts, beliefs and actions, sometimes intentionally create societies. Therefore, individuals or groups of people can move from one era, culture, society or situation to another while having different views of their 'reality' (Hughes and Sharrock, 1997), even about the same phenomenon, such as performance management.

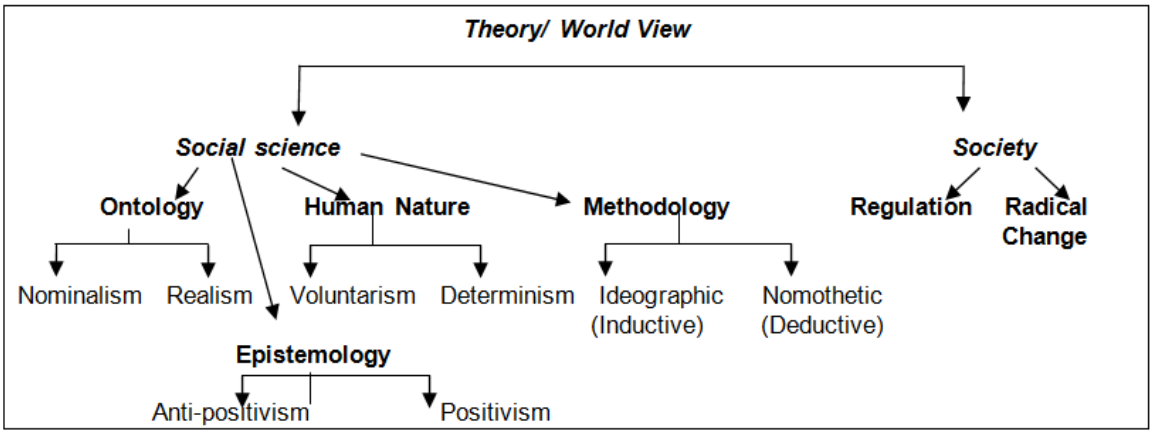
According to Burrell and Morgan (1979), the extreme positions on each of the four assumptions above represent 2 major intellectual traditions: *sociological positivism* (realist, positivist, deterministic and nomothetic approaches) and *German idealism* (nominalist, anti-positivist, voluntarist and ideographic approaches), which later they have identified as the *'subjective-objective'* dimension.

3.4.2 Second dimension – the nature of society

Burrell and Morgan (1979) have laid out the basic ideas of what '*regulation'* (status quo, social order, consensus, social integration and cohesion, solidarity, needs satisfaction and actuality) and '*radical change'* (radical change, structural conflict, modes of dominance,

contradiction, emancipation, deprivation, potentiality) would represent. The idea of regulation connotes society unity and cohesiveness and also it seeks to explain how society is maintained together as an 'entity' and kept intact, while radical change is concern with finding explanation for radical changes in society in terms of its structural conflict, contradiction and mode of dominance. The four paradigms are "mutually exclusive" and it normally offers researchers "alternative views of social reality" as well as gaining in-depth understanding of different views of society. Figure 3-4 graphically presents the summary of Burrell & Morgan's research paradigm.

Figure 3-4 : Summary of Burrell & Morgan's research paradigm

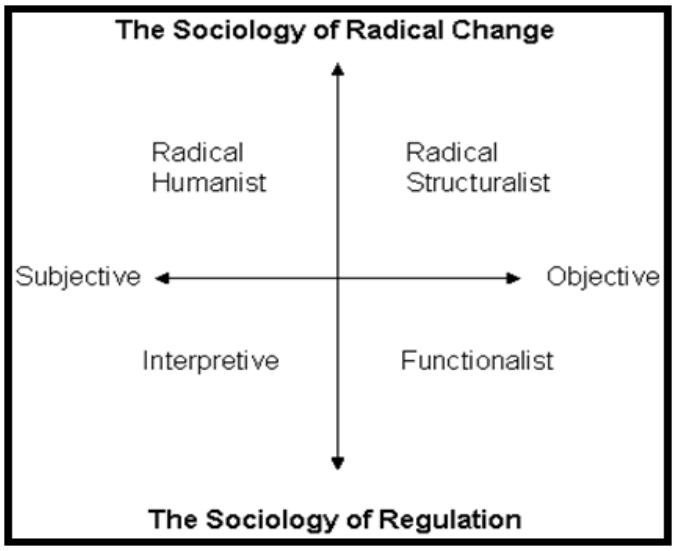


Source: Adapted from Burrell and Morgan (1979, p. 22).

3.5 Paradigms in social sciences research

Burrell and Morgan (1979) combined the two dimensions of the nature of science and nature of society as well as the regulation – radical change dimension into a two by two matrix which is presented in Figure 3-5.

Figure 3-5: Burrell and Morgan's Sociological Framework



Source*: *Adapted from* Burrell *and Morgan (1979, p. 22).

The Functionalist paradigm stresses the understanding of "order, equilibrium and stability of society" as well as preserving its status. It tends to adopt problem-oriented approach especially in finding a practical solution. Radical humanist emphasise on sociology of radical change from subjective viewpoint. Its approach is similar to the interpretive paradigm (nominalist, anti-positivist, voluntarist and ideographic). Radical structuralist is located in the objectivist standpoint and shares the same approach as functionalist (realism, positivism, determinist and nomothetic). The interpretive paradigm is concerned with understanding the subjective nature of the social world. Hopper and Powell (1985, p. 446) say that ''[. . .] people constantly create their social reality in interaction with others. It is the aim of an interpretive approach to analyse such social realities and the ways in which they are socially constructed and negotiated''.

''Interpretive'' is often used interchangeably with ''qualitative'', ''phenomenological'', and ''naturalistic'' to characterise a study's methodology, or general approach to studying (Ahrens, 2008). This research takes a stand in the interpretive research approach as it is, essentially, seeking to understand the construction of the social reality. Chua (1986, p. 601) states that: "Interpretive science does not seek to control empirical phenomena; it has no technical application. Instead, the aim of the interpretive scientist is to enrich people's understanding of the meanings of their actions, thus increasing the possibility of mutual communication and influence".

Hopper and Powell (1985, p. 446) expressed that: "People constantly create their social reality in interaction with others. It is the aim of an interpretive approach to analyse such social realities and the ways in which they are socially constructed and negotiated".

3.6 Accounting schools and sociological paradigms

Hopper and Powell (1985) and Laughlin (1995) and (2004) have developed (by getting and expanding the basic Burrell and Morgan's paradigms) their paradigms in accounting and management research. Hopper and Powell (1985) integrated the 4 distinct dimensions (i.e. ontology, epistemology, human nature and methodology) into a single subjective-objective continuum. They then combined the second dimension to represent the range of approaches that researchers took towards society (i.e. regulation and radical change) and finally categorised accounting research into the following three categories: 1) Mainstream accounting research, 2) Interpretive accounting research and 3) Critical accounting research. Chua (1986) has also adopted the same terms in her classification of the accounting research.

3.6.1 Mainstream accounting research

Mainstream or positivistic empirical research is a significant for of research in accounting. According to Ryan et al. (2002), mainstream research assumes that the social world is objective and that human behaviour is deterministic. Chua (1986) points out that mainstream accounting research is condensed with finding generalisable causal relationships. The main methods used in this type of research are questionnaires and quantitative data, and statistical methods of analysis (Hopper and Powell, 1985).

According to Chua (1986), the mainstream accounting is dominated by the belief that the reality (object) exists independent of the human beings (subject). Humans are considered as passive actors and not as "active makers of their own social reality" (Chua, 1986, p. 606). Accounting researchers believe in the notion of "empirical testability of scientific theories" (Chua, 1986, p. 607) that cannot be proven but can be falsified. Therefore, the hypothetical-deductive account of scientific explanation is accepted and has great influence on the "choice of research methods" (Chua, 1986, p. 608) such as survey methods, experimental laboratory research designs and statistical and mathematical analysis. Such method would start from a well-formulated theory generated from academic literature review and then hypotheses would be derived. A set of highly structured and predetermined procedures

would be used to collect data and analysed using mathematical and statistical techniques for validation of hypotheses. The approach is based on “abstraction, reductionism and statistical methods” (Ryan, 2002, p. 34-35).

In an investigation regarding the historical development of management accounting research in Britain, conducted Hopper et al. (2001), they pointed out that dissatisfaction with quantitative and formal economic analysis resulted in sociological approaches and qualitative research in the field. The interest is now more with understanding practice rather than prescribing what practice should be. Mainstream research was criticised for being, “too narrow, obsessively mathematical, and hence of little relevance to managerial problems that involve uncertainty and complex multiple factors” (Hopper et at., 2001, p. 273).

3.6.2 Critical accounting research

Laughlin (1999, p. 73) describes critical accounting research as: “A critical understanding of the role of accounting processes and practices and the accounting profession in the functioning of society and organisations with an intention to use that understanding to engage (where appropriate) in changing these processes, practices and the profession". Critical or radical research comprises theories, such as Marxism, Structuration, German critical theory and French critical theory (Laughlin, 1995; Ryan *et al.*, 2002). Critical theorists seem generally concerned to construct understanding of the social and economic world while criticising the status quo (Hopper and Powell, 1985). They endeavour to see accounting in its wider context. Critical research is essentially interpretive. However, it adopts a particular view regarding the research question, whilst interpretive research purposes to take a neutral stance (Baker and Bettner, 1997).

3.6.3 Interpretive accounting research

An interpretive approach to research sees the social world as subjective and research operating from perspective attempt to understand the world from the frame of reference of the participants (Hopper and Powell, 1985, p. 432). In the interpretive approach, research questions are purported to emerge from the research process and not be predetermined at the outset. Interpretive researchers aim to describe, understand and interpret the meanings that participants apply to the symbols and the structures of their environments (Baker and Bettner, 1997). Interpretive research is concerned with understanding the social world.

The main features of the interpretive paradigm would accommodate nominalist ontology, anti-positivist epistemology, a voluntarist view of human nature and ideographic methodology. It is premised on the sociology of regulation and a subjectivist view of the social science.

The main aim is to understand individual's meaning and perceptions of reality and this can be achieved by analysing it in accordance with the way it is "constructed and negotiated" (Hopper and Powell, 1985, p. 446). According to Chua (1986, p. 613) "Social science is generally concerned with a special class of meaningful behaviour – actions – which is future-oriented and directed towards the achievement of determined goal. Because actions are intrinsically endowed with subjective meaning by the actor and always intentional, actions cannot be understood without the reference to their meaning". Therefore, it emphasises on the "role of language, interpretation and understanding in social science" (Ryan, 2002, p. 35). The interpretive scientists would require to interpret the actors' action and assign meaning to it by using different techniques such as case studies and observations as compared to mathematical or statistical analysis. The main purpose is to provide an in-depth understanding of the actual meaning to the actions of people.

According to (Laughlin, 1995; Parker and Roffey, 1997), symbolic interactionism, grounded theory, ethnography and ethnomethodology approaches are the four main branches within this school of thought (interpretive sociology) that are used quite a lot in the management accounting research. Chua (1988, p. 59) has discussed symbolic interactionism and ethnomethodology. All of these three branches have social subjectivity and disagreement with mainstream approach in common. This research project takes an interpretive research perspective to understanding performance management in higher education and uses grounded theory as its research methodology (.the methodology employed and its rationale for this study is discussed in the next chapter).

The main criticism of interpretive research is that it does not actively seek to challenge status quo and also that it alleges to take a neutral stance. It has been argued that it is impossible for any researcher to have a completely neutral view to a situation studied, as values and experiences influence the way we see the world (Baker and Bettner, 1997, Dey, 2002).

Recently, several researchers (such as Kakkuri-Knuuttila, Lukka, and Kuorikoski (2008)) claim that strict distinctions between objective and subjective approaches to research make no sense. This is an important message for all accounting researchers. Ahrens (2008) confirms such claim by stating: "Kakkuri-Knuuttila et al. (2008) are right in saying that

interpretive management accounting research combines subjective and objective elements. Such combinations are not, however, the result of saying one thing (‘‘In particular, interpretive management accounting researchers tend to continuously stress the fundamentally subjectivist nature of their research (see e.g. Ahrens & Chapman, 2006, and their cited literature)’’ (Kakkuri-Knuuttila et al., 2008)) and doing another (‘‘Stating is not necessarily the same as doing [. . .] (Kakkuri-Knuuttila et al., 2008))”.

In this study, the interpretive accounting research paradigm is adopted. “Debates on how social reality emerges from subjective understandings and is objectified through interaction lie at the heart of interpretive management accounting research” (Ahrens,2008). Kakkuri-Knuuttila et al. (2008) name Burrell and Morgan’s (1979) framework as an important starting point for those debates. Kakkuri-Knuuttila et al. (2008) believe, Burrell and Morgan’s (1979) key distinctions between nominalism and realism, anti-positivism and positivism, voluntarism and determinism, ideographic and nomothetic research, and assumptions about society as characterised by order or conflict, have greatly influenced interpretive accounting researchers to make strict distinctions between objective and subjective knowledge.

3.7 Summary

It is important for researchers to identify their research paradigm in a particular research project as this influences the questions they ask and the way they present their findings. However, it should be noted none of the research paradigms is perfect and an awareness of the weaknesses of each perspective is important in order for the findings to be taken in the light of the weaknesses of the paradigm employed.

According to Chua (1986), accounting research is classified under three categories: mainstream, interpretive and critical. These categories represent the paradigms from which a research project can be undertaken. Chua’s (1986) paradigms, different stances on their ontological and epistemological beliefs as well as the relationship between theory and practice are compared, summarised and presented in Appendix AB of the thesis.

An interpretive approach to research sees the social world as subjective and researchers operating from this perspective attempt to understand the world from the frame of reference of the participants (Hopper and Powell, 1985: 432). Interpretive researchers aim to describe, understand and interpret the meanings that participants apply to the symbols and the structures of their environment which they find themselves (Baker and Bettner, 1997).

Grounded theory approach is within this school of thought (Laughlin, 1995; Parker and Roffey, 1997) which has a social subjectivity. In this regard and in terms of epistemology (what is known to be true), since this research tries to understand and interpret how accounting and performance measurement systems work within a case university, thus it is located in the interpretive accounting research paradigm. From point of view of ontology, in this research reality is not seen as it exists out there as a concrete structure but as a product of human consciousness and appreciation. In other words, this research will be taking a stand in subjective research paradigm. In the case of deductive or inductive research method, as this research uses grounded theory in its attempt to study the performance management phenomenon at a university without any predefined theory, values or concepts, therefore inductive processes are emphasised rather than hypothetico-deductive processes. This is to allow the construction of research questions, which are relevant to the matter studied.

Chapter 4

Research Methodology

4.1 Introduction

Research methodology is basically those decisions and actions are taken with regard to the research objectives and questions and within a framework of specific determinants to formulate the problem to be investigated and to select appropriate techniques for data collection, data analysis and reporting the results. Therefore, it is crucial that every aspect of the research has to be clearly identified to make it possible for other researchers if they follow the same process, they achieve the same results.

This chapter explains the methodology which was chosen to manage the research, justifies the decision made and illuminates why such methodology was appropriate for this research. A few other terms which are equivalent (synonyms) to “methodology” are “strategy” and “approach” which have also been used exchangeably in this chapter.

4.2 Choice of suitable research methodology

According to Yin (1994, P6), researchers could adopt several strategies to approach their research. Table 4-1 below addresses several different strategies.

Table 4-1: Different research strategies and their application

Strategy	Type of research questions	Requires control over event	Focus on contemporary events
Case study	How, Why	No	Yes
History	How, Why	No	No
Archival analysis	What, Who, Where, How many, How much	No	Yes/No
Survey	What, Who, Where, How many, How much	No	Yes
Experiment	How, Why	Yes	Yes

Source: Adapted from Yin (1994, P6).

Saunders et al (1997, P75) mention that research strategies depend on:

1- the type of the research question(s)
2- the researcher's control over actual events
3- focusing on contemporary as opposed to historical phenomena

This study intends to enhance the knowledge of the performance management phenomenon in higher education in a developing country. Therefore it focuses on a contemporary event that does not require control over the phenomenon.

According to Audet (2001) when the main objective in a research is to meliorate the knowledge of a phenomenon, especially a complex and profoundly engrafted in the context phenomenon, qualitative research approaches are traditionally favoured. Its numerous techniques and methodologies help researcher get a better grasp of a variety of management situations. Based on this description and with regard to the characteristics of this study, it is a qualitative approach research in nature.

In more detail, this research is a qualitative exploratory and explanatory type research which focuses on the performance measurement and management practices of a specific university, and by gathering qualitative information tries to get an in-depth understanding and a fuller picture of the subject which is investigated.

4.3 Appropriate methodology for this research

In this study it is aimed to build a nascent theory rather than testing a theory through exploring the participants' perceptions and attitudes about a phenomenon deeply. Therefore, regarding methodology, based on the above explanations and according to Glaser & Strauss (1967) and Strauss & Corbin's (1990, 1998) definitions, also based on the reasoning given below, Grounded Theory (GT) would be the most appropriate methodology for this research.

Grounded Theory is a research methodology that attempts to generate a theory from data which are systematically obtained and analysed. This methodology was originally discovered and developed by two sociologists while conducting an observational field study with dying patients (Glaser and Strauss, 1965, 1967). In their book, they have defined GT as: "the discovery of theory from data" (Glaser and Strauss, 1967, p. 1).

Locke (2001) claims grounded theory has been the most widely used qualitative methodology in social science research. She further gives the following three reasons for the popularity of the grounded theory in management research: 1) it is useful for developing new theory or fresh insights into old theory; 2) it generates theory of direct interest and relevance for practitioners; and 3) it can uncover micro-management processes in complex and unfolding scenarios.

In addition, according to Goulding (1998), as this approach emphasises on new discoveries, therefore it is used to generate theory in areas where there is little already known, or to provide a fresh slant on existing knowledge regarding a peculiar social phenomenon/process. In other words it could be used to shed a light on substantial areas with few extant theoretical explanations.

Several years later, Goulding (2002) mentioned GT is also useful where there is an obvious lack of integrated theory in the literature. Grounded theory is regarded as an inductive methodology for generating new theory from data (Goulding, 2002; Locke, 2001; Chenitz and Swanson, 1986). More importantly, Glaser, one of the founders of the Grounded Theory (1967) remarks: "Grounded Theory becomes an answer where other methodologies did not work well enough, especially in the sensitive dependent variable fields within the health science and business and management". Stern (1980) also says: "[...] the strongest case for the use of grounded theory is in investigations of relatively uncharted water, or to gain a fresh perspective in a familiar situation." Strauss and Corbin (1998) make it clear that: "If someone wanted to know whether one drug is more effective than another, then a double blind clinical trial would be more appropriate than grounded theory study. However, if someone wanted to know what it was like to be a participant in a drug study, then he or she might sensibly engage in a grounded theory project or some other type of qualitative study."

According to Goulding (2000), usually researchers adopt grounded theory "when the topic of interest has been relatively ignored in the literature, or has been given only superficial attention. Consequently, the researcher's mission is to build his/her own theory from the ground". Pioch and Byrom (2004) state: "in contrast to the widely used logico-deductive approaches in business and management research, GT develops theories that are grounded in data that have been systematically obtained via social research, mainly, but not exclusively, of a qualitative nature". GT has received a lot of supports over the time. For example; Elharidy, Nicholson and Scapens (2008) claim that GT research methodology can promote greater creativity, encourage the interaction with data and provide a strong commitment to theory development from everyday practices.

4.4 Grounded Theory: what and why?

Grounded Theory (GT) is a research methodology that attempts to generate a theory from data which are systematically obtained and analysed. This methodology was originally discovered and developed by two sociologists while conducting an observational field study with dying patients (Glaser and Strauss, 1965, 1967). In their book, they have defined GT as: “the discovery of theory from data” (Glaser and Strauss, 1967, p. 1).

They asked for GT adoption in social sciences because it would be more successful than theory deducted from *a priori* assumptions.

Locke (2001) claims grounded theory has been the most widely used qualitative method in social science research. She further gives the following three reasons for the popularity of the Grounded Theory in management research: 1) it is useful for developing new theory or fresh insights into old theory; 2) it generates theory of direct interest and relevance for practitioners; and 3) it can uncover micro-management processes in complex and unfolding scenarios.

Also according to Goulding (1998), as this approach emphasises on new discoveries, therefore it is used to generate theory in areas where there is little already known, or to provide a fresh slant on existing knowledge regarding a peculiar social phenomenon/process. In other words it could be used to shed a light on substantial areas with few extant theoretical explanations. Several years later, Goulding (2002) mentioned GT is also useful where there is an obvious lack of integrated theory in the literature.

Grounded theory is regarded as an inductive methodology for generating new theory from data (Goulding, 2002; Locke, 2001; Chenitz and Swanson, 1986).

More importantly, Glaser, one of the founders of the Grounded Theory (1967) remarks: "Grounded Theory becomes an answer where other methodologies did not work well enough, especially in the sensitive dependent variable fields within the health science and business and management.”

Stern (1980) also says: "[...] the strongest case for the use of grounded theory is in investigations of relatively uncharted water, or to gain a fresh perspective in a familiar situation.”

According to Strauss and Corbin (1998), the theory that is derived from the data are more likely to resemble what is actually going on than if it were assembled from putting together a series of concepts based on experience or through speculation. They make it clear that: "If someone wanted to know whether one drug is more effective than another, then a double blind clinical trial would be more appropriate than grounded theory study. However, if someone wanted to know what it was like to be a participant in a drug study, then he or she might sensibly engage in a grounded theory project or some other type of qualitative study."

According to Goulding (2000), usually researchers adopt grounded theory "when the topic of interest has been relatively ignored in the literature, or has been given only superficial attention. Consequently, the researcher's mission is to build his/her own theory from the ground".

Pioch and Byrom (2004) state: "in contrast to the widely used logico-deductive approaches in business and management research, GT develops theories that are grounded in data that have been systematically obtained via social research, mainly, but not exclusively, of a qualitative nature".

GT has received a lot of supports over the time. For example; Elharidy, Nicholson and Scapens (2008) claim that GT research methodology can promote greater creativity, encourage the interaction with data and provide a strong commitment to theory development from everyday practices.

Lowe (1998) states GT is a methodology that "...reveals the underlying processes of what is going on in a substantive area of study". Denscombe (1998) supports GT as a good qualitative approach in social science research where he describes its preference as: "rather than basing an investigation upon whether certain theories do or do not work, the researcher embarks on a voyage of discovery".

Strauss and Corbin (1990, p. 24) defined GT as: "A qualitative research method that uses a systematic set of procedures to develop and inductively derive grounded theory about a phenomenon.". Glaser (1992, p.16) argued that: "The grounded theory approach is a general methodology of analysis linked with data collection that uses a systematically applied set of methods to generate an inductive theory about a substantive area". Strauss and Corbin (1998, p. 12) discussed GT as: "Theory that was derived from data, systematically gathered and analysed through the research process. In this method data collection, analysis and eventual theory stand in close relationship to one another".

GT is a qualitative research methodology which has become the most widely adopted tool in social science research (Locke, 2001). It is a distinct approach to generate a theory about substantive fields with not much existing theoretical knowledge. In spite of such strength, there is not much research which employs this methodology in the area of performance management.

The GT is used as the literature on performance management is not well developed in HE systems in developing countries. The other main reason is the unique situation of the university studied as it is under direct influences of two powerful ministries in which the literature is quite silent in this regard as well.

GT has been adopted as the methodology of this research for the following reasons:

1- Lack of an integrated theory in the literature as to how performance management activities in HE contexts of a developing country are formed and practices.
2- Lack of any existing theoretical knowledge about the case studied
3- It is inductive approach, which allows concepts and "conceptually dense" theories to emerge on the basis of performance management practices which are "grounded" in empirical reality (Denscombe, 1998).
4-Theoretical generalisation and development is not the goal of this study, but conceptualisation Glaser (1996, 1998).
5-To build a theory that explains the complex social phenomenon of performance management practices
6- It is rooted in the reality of the experience (Charmaz, 2000).
7- It allows the concepts, theories or models are developed from the socially constructed knowledge of participants.
8- It assists the researcher in retaining the link between culture, language, social context and construct (Gales, 2003).
9- being able to use of various sources of data (interviews, observations, focus groups, life histories, and introspective accounts of experiences, etc.).

It should be also noted that theories generated by GT approach should be understandable and usable and of direct relevance interest to individuals and practitioners in the situation that is being studied, otherwise they would not be useful in everyday life (Locke, 1996).

4.5 Grounded theory versus case study methodology

One of the critical issues in this study which needs to be specified is the question of why "grounded theory" rather than "case study" is selected as the methodology of the research. It is a critical question as in this research only one case (university) is investigated. To address this concern, Leedy (1997) has provided a contrast between grounded theory and case study research methodologies[2]. Table 4-2 below shows the characteristics and differences between the two approaches.

Table 4-2: Characteristics of Grounded Theory Vs. Case Study Methodology

No.	Question	Case Study	Grounded Theory (GT)
1	What is the purpose of the research?	To examine a single 'case' in-depth in order to understand the person or phenomenon	To derive a theory that links participants' perspectives to general social science theories
2	What is the nature of the research process?	Studies on bounded cases, Focus on natural context	Studies 'process' Focus on interactions
3	What are the methods of data collection?	Interactive fieldwork, Formal and informal interviews, Some use of quantitative measures	Draws from historical records, interviews, observations Variable, multiple 'units'
4	What are the methods of data analysis?	Interpretational-search for themes, Structural-search for patterns in discourse, Reflective-rich portrayal of participants' views	Concept oriented, Open, axial & selective coding, Constant comparative method
5	How are the findings communicated?	Analytical (objective) narrative, Reflective (literary) narrative	Analytical story

Source: Adapted from Leedy (1997, Table 7.2, p.166).

The aim of this research project is to develop a theory which explains and supports the performance management practices in a university. The grounded theory methodology is used in a case study (as a unit of analysis). They are not contradictory, but complementary. The actual method of data analysis used for a GT study (certainly as provided by Strauss and Corbin, 1998) gives the researcher an explicit framework with which to code the data and develop an emergent theory. Finally, the emergent GT is usually communicated in terms

[2] Otley and Berry (1994), Llewellyn (1992) and Scapens (1990) have all noted that case study research is a method rather than a methodology.

of an analytical story (based on the codes, their relationships with each other in paradigm models, and the strongest story line).

It is worth mentioning that there is some overlap between Leedy's distinguishing characteristics of GT and case study methodologies. In the instance of a GT study within a single organisation (company, university, etc.), it is possible to merge the two sets of characteristics for the research purpose, the nature of the research purpose and the methods of data collection.

Other scholars have also compared GT with other methodologies. For example, Stern (1994) distinguished between GT, ethnography and phenomenology[3]. Furthermore, Parker and Roffey (1997) distinguished between GT, positivist and hermeneutic approaches.

4.6 Theory building with GT

According to Glaser (2003, p. 3) the goal of the GT is to “generate a conceptual theory that accounts for a pattern of behaviour which is relevant and problematic for those involved”. The continual resolving is “designated by a category called the core category” (Glaser, 2001, p. 199). Therefore, GT is “a theory about a core category” (Glaser, 2001, p. 199).

Regarding the role of the GT in theory development, Strauss (1987, p. 5) says: “the methodological thrust of the grounded theory approach to qualitative data is toward the development of theory” which requires “developing many concepts and their linkages in order to capture a great deal of the variation that characterises the central phenomenon” (Strauss, 1987, p. 7).

The next generations of the GT developed by Strauss and Corbin (1990, 1998) have continued to be committed to using GT methodology for the theory generation as well.

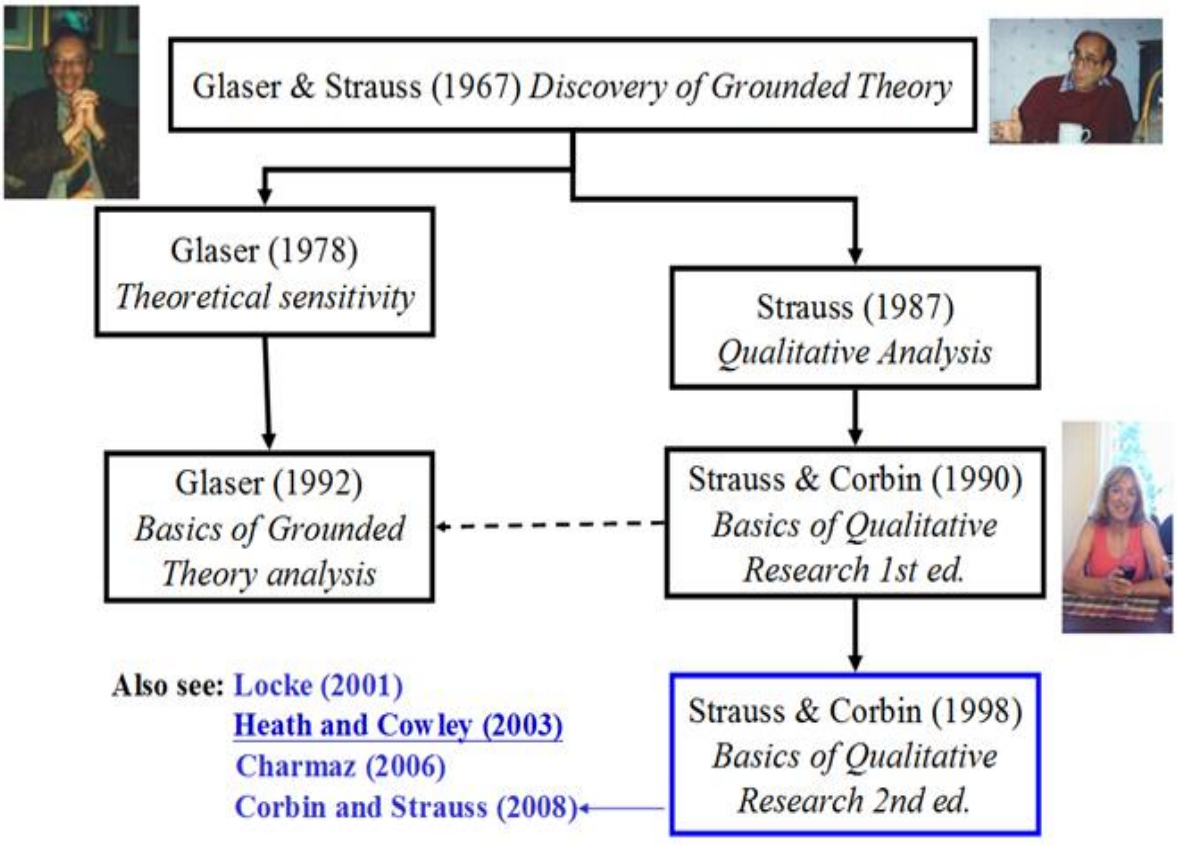
[3] "Ethnography starts with a given theoretical perspective, often based on much preceding work carried out by previous anthropologists. Phenomenology incorporates existential philosophy to interpret data. Grounded theory incorporates symbolic interactionism and the researcher 'enters the scene bereft of preformed theory'' (Stern, 1994, p215).

4.7 Historical development of grounded theory

Grounded theory was launched and introduced initially and for the first time by Glaser and Strauss in 1967 in their book named “Discovery of Grounded Theory”. But later on these two separated and started following and developing their own version of GT.

In 1990, Strauss in conjunction with Corbin, (Strauss and Corbin, 1990) wrote a book and introduced their perception and version of GT (known as Straussian approach). They named their book: “Basics of Qualitative Research, 1st ed.”. Two years later, Glaser (1992) elaborated on GT in his new book (Basics of Grounded Theory analysis) and challenged the Strauss and Corbin’s version and attitude about GT. However, Strauss and Corbin (1998) published the second edition of their book which was an updated version of GT with extended coding systems. Since then (i.e. after 1998), several other researchers and authors have contributed to the GT debate and developed new perspectives in this area (for instance: Locke (2001), heath and Cowley (2003, 2004), Charmaz (2006), Corbin and Strauss (2008)). The diagram below (Figure 4-1) illustrates the evolution and divergence of GT over fourty years (since its discovery in 1967 until 2008).

Figure 4-1: Historical development of Grounded Theory



Source ?: Developed by the author

The above mentioned changes and divergences has made incumbent for every researcher who uses GT as the methodology of his research to indicate which version and implementation they are employing. This research project uses the Strauss and Corbin (1998) approach. The rationale behind this approach and its implementation is discussed later in this chapter.

4.8 Which version of GT? Glaser or Strauss?

Jones and Noble (2007) investigated the manner in which GT methodology, its variations, contradictions and modifications have progressively developed since it was expounded in 1967 (both between and within the Glaserian and Straussian Schools) and how researchers have employed it in the field of management. In their study, they have compared major aspects of the two Glaserian and Straussian Schools (Table 4-3). Jones and Noble (2007) argue that "not only does the Straussian School of grounded theory differ in both product and process from the Glaserian School, but also displays major modifications and contradictions between the 1987, 1990, and 1998 versions".

Table 4-3: Contrasts between and within the Glaserian and Straussian Schools

Aspect	Straussian School	Glaserian School
Emergence and researcher distance	1987, 1990, 1998: the researcher adopts a more active and provocative influence over the data, using cumulative knowledge and experience to enhance sensitivity. Logical elaboration, and preconceived tools and techniques can be employed to shape the theorising	Everything emerges in a grounded theory – nothing is forced or preconceived. Researchers are distant and unknowing as they approach the data, with only the world under study shaping the theorising
Development of theory	1987: conceptually dense, integrated theory development is the only legitimate outcome 1990, 1998: grounded theory can also be used for developing non-theory (conceptual ordering or elaborate description)	The goal is to generate a conceptual theory that accounts for a pattern of behaviour which is relevant and problematic for those involved
Specific, non-optional procedures	1987: grounded theory encompasses a number of distinct procedures that must be carried out 1990, 1998: researchers can cherry-pick from a smorgasbord table, from which they can choose, reject, or ignore	The method involves clear, extensive, rigorous procedures and a set of fundamental processes that must be followed
Core category	1987, 1990, 1998: the main theme of a pre-determined phenomenon which integrates all the other categories and explains the various actions and interactions that are aimed at managing or handling the relevant event, happening or incident	The theoretical formulation that represents the continual resolving of the main concern of the participants

Coding	Open, axial and selective, but with the following variations: 1987: selective coding is an “emergent” process based on continuous use of memo sorting and integrative diagrams 1990: selective coding employs the “forcing” mechanism of the coding paradigm 1998: paradigm model dropped, and an emergent process based on memo sorting is again stressed	Open, selective and theoretical

Source: Adapted from Jones and Noble (2007).

Jones and Noble (2007) analysed thirty two empirical GT studies published in the management literature since 2002 and found out that only two of the studies (6 per cent) adopted the approach of generating a core category that resolved the main concern of the participants showing that the Glaserian School was far less popular than the Straussian School.

4.9 The role of researcher in grounded theory

It is a serious misunderstanding of GT, if it is erroneously assumed this technique implies entering the fieldwork without having reviewed the literature (Urquhart, 2007; Urquhart & Fernández, 2006).

According to Goulding (2000), most researchers will have their own disciplinary background which will provide a perspective from which to investigate the problem. Nobody starts with a totally blank sheet.

Taking into the account the previous knowledge, either from researchers’ previous experiences or from the existing literature, would help to shape up a theoretical basis of approaching the subject to be studied (Walsham, 1995).

Siggelkow (2007, p. 21) elaborates that “our observations are guided and influenced by some initial hunches and frames of reference” and accentuate that “an open mind is good; an empty mind is not.”

The literature review has to only inform the idea of previous researchers and assist the researcher to generate a preliminary theoretical framework that must be treated as a

“sensitizing device” (Klein & Myers, 1999, p. 75), only which can be changed according to the actual findings; that may lead to a serendipitous discovery. In other words, it should not force the researcher, when analysing the data, to simply impose previous theories instead of producing original categories.

Glaser (1978) emphasises that researchers should not lose theoretical sensitivity. "Professional experience, personal experience, and in depth knowledge of the data in the area under study truly help in the substantive sensitivity necessary to generate categories and properties, provided the researcher has conceptual ability" (Glaser, 1992, p. 28). According to Strauss and Corbin (1990, p. 41) theoretical sensitivity is the “awareness of the subtleties of meaning of data” and explain “one can come to a research situation with varying degrees of sensitivity depending upon previous reading and experience with or relevant to that area”. Urquhart (2007) also stresses that researchers should evaluate the relevance of their preliminary theoretical framework vis-à-vis the actual findings. Finally, Urquhart and Fernández (2006, p. 5) state that the “preliminary literature review is conducted on the understanding that it is the generated theory that will determine the relevance of the literature which must be revisited and contrasted to the emergent theory from the data”.

Strauss (1987, p. 84) sees researchers’ own personal and professional experience and acquired knowledge as a positive advantage in the GT process. In his idea such advantage will enhance theoretical sensitivity rather than obscuring vision: “if you know an area, have some experience . . . you don’t tear it out of your head, you can use it”.

According to the Glaserian approach “the natural world is out there and with an appropriate method, executed with discipline and restraint, it will embed itself in theory” (Locke, 1996, p. 241). The concept of emergence is a central tenet of GT. Nothing is forced or preconceived. Everything emerges in a grounded theory – the participants’ main concern, the sample, the questions asked, the concepts, the core category, and so on. “We do not know what we are looking for when we start . . . we simply cannot say prior to the collection and analysis of data what our study will look like” (Glaser, 2001, p. 176). The researcher should not bring any a priori knowledge to the research study. Instead, researchers should “actively seek to prevent and minimise their impact on the data through methods that restrain their influence” (Locke, 1996, p. 241). In accordance with this approach the researcher enters the field with only a broad topic area of interest in mind, without specific preconceived research questions, and without a detailed reading and understanding of the extant literature in the area.

Strauss' (1987, p. 84) techniques encourage researchers to use their own personal and professional experience and acquired knowledge as a positive advantage in the grounded theory process to enhance theoretical sensitivity rather than obscuring vision: "if you know an area, have some experience . . . you don't tear it out of your head, you can use it".

As with Glaser, Strauss endorses a realist ontology (Charmaz, 2000, p. 513) in that: ". . . both assume an external reality that researchers can discover and record, Glaser through discovering data, coding it, and using comparative methods step by step; Strauss and Corbin through their analytic questions, hypotheses, and methodological applications".
In nutshell, the Straussian approach allows and approves the researchers to apply variations and flexibilities in their empirical studies.

4.10 GT in management accounting research

Horngren et al. (2002, p. 6) define management accounting as: "the process of identifying, measuring, accumulating, analysing, preparing, interpreting, and communicating information that helps managers fulfil organisational objectives". Information generated by management accounting work "…guides management action, motivates behaviour, and supports and creates the cultural values necessary to achieve an organisation's strategic, tactical, and operating objectives" (Atkinson et al. 2001: 577). Such definitions show that management accounting is socially constructed. Actually, the design of management accounting work is guided by economic principles. Although, there are few rules for how management accounting must be done, but researchers in this area must gain a complete understanding of complex social phenomena through more direct and substantial interactions with organisations and their members.

Parker and Roffey (1997, p. 241) are eloquent about the benefits of using GT studies to understand specific phenomenon in accounting and management: "Grounded theory studies can help accountants, auditors, managers and policy-makers discover what is happening, how things are done, why and when organisation members do what they do, and how component parts (people, organisational units, etc.) interact. Such knowledge is invaluable in applied research where changes in environments (socio-economic, political and institutional), policies, operating systems, organisational structures and activities are anticipated. The grounded theory researcher can utilise technical sensitivity and creativity to develop a structure for interpreting the phenomenon, and use this analysis as a framework for planning and implementing change". Nevertheless, Jones and Noble (2007) have warned

of loosely used GT as a generic term to refer to any qualitative approach and the danger of losing its integrity in management research.

4.11 GT usage in non-western contexts

Although a substantive research in the literature has been done using GT as the main strategy, but the vast majority of them is related to developed countries / economies that espouse “free-market” ideology which their companies’ primary objective is to maximise shareholder wealth. The origin, application, practice and conceptual development of GT methodology has been mostly dominated by western contexts. Characteristics of such well developed economies would include competition, effectiveness and efficiency. Moreover, the economic, cultural, and social ideological of such environments are substantially different from that of non-western and developing contexts. Nevertheless, in recent years there has been an emergence of using GT in other locations.

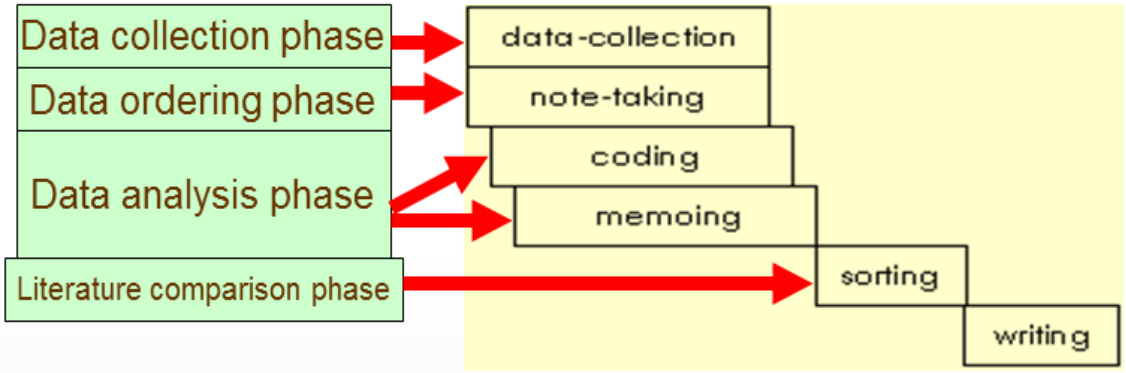
In general, developing countries should not seek to follow the approaches produced and developed by developed countries slavishly. They should adopt them (or discard them) according to the requirements, conditions, and criteria of their own particular societies. However, it can be argued that in order to use the grounded theory as a research methodology or method, non-western and developing countries ought to consider the implications and constitutions in which developed countries have implemented.

There is an obvious dearth of information on understanding and using GT in Iran; indeed there is no published, or otherwise available, research using GT within Iran. Thus, this research project utilises GT in a developing country as an empirical context to inform research inquiries.

4.12 Coding issues

A grounded theory research normally goes through a process of mostly-overlapping stages (Figure 4-2).

Figure 4-2: Grounded theory different phases



Source: Developed by author, idea adapted from Dick (2005).

As Figure 4-2 graphically illustrates, data collection, note-taking, coding and memoing occur simultaneously from the beginning. Sorting happens when all categories are saturated. Writing occurs after sorting.

4.13 Theoretical sensitivity

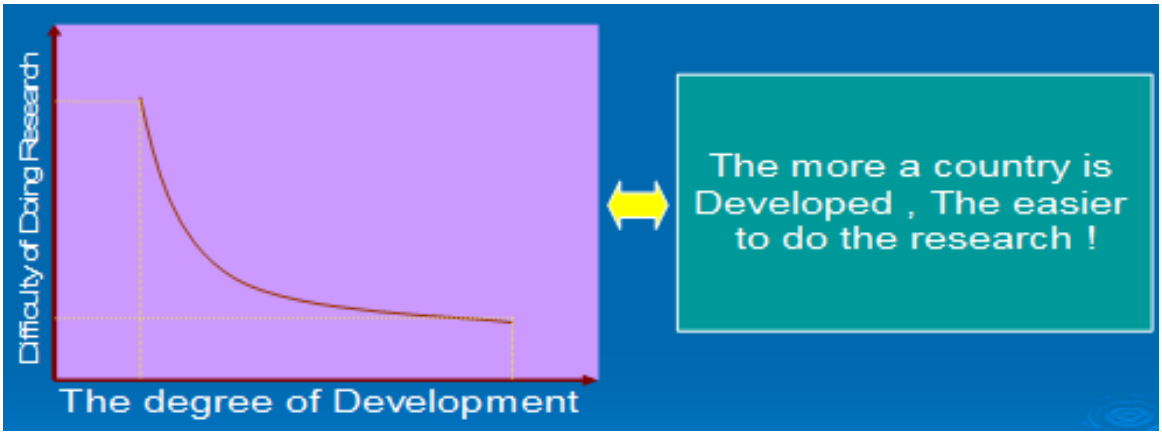
In the Strauss and Corbin's (1998) framework, theoretical sensitivity refers to the way in which a researcher's knowledge and experience helps the researcher to understand and interpret the data. Yin (1994, p.9) elaborated on the role of 'theoretical sensitivity' in relation to case studies but this viewpoint is equally pertinent for grounded theory "Budding investigators think that the purpose of a literature review is to determine the *answers* about what is known on a topic; in contrast, experienced investigators review previous research to develop sharper and more insightful *questions* about the topic".

4.14 Grounded theory limitations

There are challenges associated with using GT. The main tools in GT studies are interviews which are not easy to perform. The situation gets more complicated and becomes worse if the research is conducted in third world or developing countries. This is because of the lack of structured systems, bureaucracy, corruptions, and many other challenges and difficulties.

The relationship between the "difficulty of doing research" in a country/environment and the "degree of development" of that country/environment is illustrated in the diagram below (Figure 4-3).

Figure 4-3: The relationship between development and research difficulties



Source: Generated and developed by the researcher

As the diagram shows, the more a country/environment is developed, the easier to conduct a research. There is however no evidence yet for such claim and it is generated theoretically based on the researcher's knowledge and experience, but the model can be verified in a separate study.

With GT, the researcher should also avoid being too structured by using a prescribed formal schedule of questions in an interview. But this is easier in theory than in practice. Totally unstructured interviews would also cause confusion, incoherence, and result in meaningless data. The art lies therefore in finding a balance which allows the informant to feel comfortable enough to expand on their experiences, without telling them what to say.

4.15 Grounded theory analytical processes

Grounded theory methodology involves three analytical processes: open, axial and selective coding (Strauss and Corbin, 1998).

4.15.1 Open coding

Open coding is "The analytic process through which concepts are identified and their properties and dimensions are discovered in data" (Strauss and Corbin, 1998, p.101). During this process data are analysed in detailed and compared for any similarities or differences (Strauss and Corbin, 1998, p.102). Open coding represents the initial stage of grounded theory analysis. Strauss (1987, p.27) states that the purpose of open coding is to *"open up* the inquiry". At the open coding phase, data is broken down, reviewed and conceptualised

into concepts and categories (Strauss and Corbin, 1998). Open categories are concepts generated from data that describe phenomena important to participants (Strauss and Corbin, 1998; Glaser and Strauss, 1967).

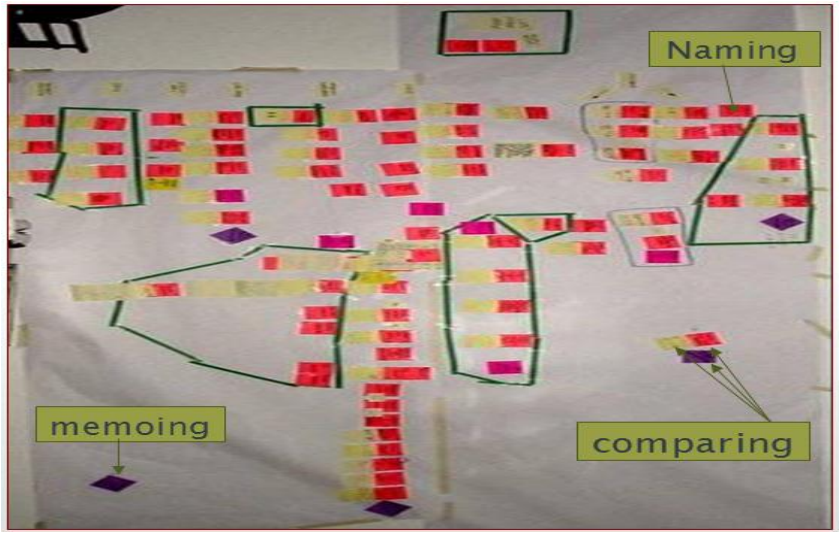
Categories are “concepts that stand for phenomena” (Strauss and Corbin, 1998, p.101), while “properties are the general or specific characteristics or attributes of a category, dimensions represent the location of a property along a continuum or range” (Strauss and Corbin, 1998, p.117). According to Glaser, 2002) concepts and categories represent important phenomena related to the subject under study that are discovered and conceptualised from data through the application of the constant comparison method. Strauss and Corbin (1998) demonstrate open coding as a three stage process:

1. The initial step is to conceptualise the data. This means that every discrete incident in the data is given a name. This analysis can be done on a word-by-word, a line-by-line or a sentence-by-sentence basis.

2. The second step is "the process of grouping concepts that seem to pertain to the same phenomena is called categorising" (p. 65). Each of these categories is named. These names can originate from academic, professional or technical literature, or they can be "in vivo" codes which are catchy and summarise what the category stands for.

3. These categories are then developed in terms of properties and dimensions. "Properties are the characteristics or attributes of a category … dimensions represent locations of a property along a continuum" (p. 69). This additional development provides a richer understanding of the relationships between different categories and how they might fit together. At this stage, these categories (and associated findings) are provisional and help to sensitise the researcher. Figure 4-4 graphically illustrates the open coding process.

Figure 4-4: The open coding process



Source: provided by the researcher.

There are some techniques which help open up the researcher's way of thinking about the phenomena, including basic questioning (Who? When? Where? What? How? Why?), temporal questioning (frequency; duration; rate; timing), 'flip-flop' technique (considering opposites), and 'red flags' which require further consideration (e.g. if an interviewee states that something never happens or always happens - are there any conceivable exceptions?).

Several ways suggested for new researcher to do open coding includes line-by-line analysis, sentence or paragraph and also peruse the entire document by asking oneself, “What is going on here?” (Strauss and Corbin, 1998, pp. 119-120).

Glaser (1992) argues that codes and categories should emerge from the data, while with Strauss & Corbin’s approach (1998) these are selected prior to analysis. As it is mentioned, the latter approach has been adopted in this research. This will provide a list of “intellectual bins” or “seed categories” (Miles & Huberman 1999) to structure the data collection and the open coding stage of data analysis.

4.15.2 Axial coding

The second phase of analysis will use axial coding. Axial Coding is a process of connecting categories of data to their subcategories and happens around the axis of a category, and then relating categories at the level of depth and breadth (Strauss and Corbin, 1998). It involves assembling the data broken down during open coding process by reviewing the

connections between the various categories (Strauss and Corbin, 1998). At the axial coding stage, through a set of procedures, data are put back together in new ways (after open coding which fractures the data into categories) by making connections between the categories and sub-categories. As the data is coded, theoretical questions, hypotheses and code summaries will arise. These will be documented in analytic memos (Miles & Huberman 1999) to aid understanding of the concepts being studied and to refine further data collection.

In this research, memos and diagrams were mainly used as record keeping techniques throughout the data collection and analysis and became important sources of reference in writing and discussion parts and helped to explain the research context naturally and smoothly.

Emerging categories help the researcher to arrange follow-up interviews to elicit further, richer, more focused information. The aim of this act is to confirm, extend, and sharpen the evolving list of categories. As categories become integrated, further data collection will not tend to cause any additional categories to emerge, but rather reinforce those already in existence. At this point, the categories will be deemed to be "theoretically saturated" (Strauss & Corbin 1998), and data collection ended.

Strauss and Corbin (1990) presented a paradigm model which consists of a main category (phenomenon) and the various features of that category (referred to as sub-categories; which are actually other categories that relate to the main category). Below is their paradigm model which includes:

Causal conditions $\rightarrow$ phenomenon $\rightarrow$ context $\rightarrow$ intervening conditions $\rightarrow$ action/interaction strategies $\rightarrow$ consequences

Table 4-4: Strauss and Corbin's Paradigm model

Categories	Description / Explanation
Causal / antecedent conditions	The events / incidents that result in the phenomenon. Strauss (1987, p.28) gives some good guidance on discovering conditions, interactions and consequences by looking for cues (e.g. the words 'because', 'since', 'as', 'on account of')
Phenomenon	The main category is the central idea or event

Context	The specific set of properties/dimensions that relate to the phenomenon.
Intervening conditions	These are the broader context relating to a phenomenon - those that facilitate or constrain action/interaction. "These conditions include time, space, culture, economic status, technological status, career, history, and individual biography" Strauss (1987, p.103)
Action / interaction strategies	"Grounded theory is an action/ interactional oriented method of theory building which is directed at managing, handling, carrying out, responding to a phenomenon as it exists in context or under a specific set of perceived conditions" Strauss (1987, p.104)
Consequences	The outcome or consequence of the strategies for action/ interaction. Strauss (1987, p. 28) gives some guidance on discovering consequences of actions by looking for cues (e.g. phrases like 'as a result of', 'because of that', 'the result was', 'in consequence')

Source: Adapted from Strauss (1987) and Strauss and Corbin (1990).

Four major distinct steps between open and axial coding which underlie axial coding are presented below:

1) Relating categories and sub-categories in terms of the paradigm model;
2) Returning to the data to verify that these relationships do exist;
3) Searching for more and more properties / dimensions of categories to ensure a rich description;
4) Investigating variations in relationships and exceptions.

Despite the above mentioned distinctions, there is continual interplay between open and axial coding. In other words, given the iterative nature of grounded theory analysis, in some cases it is difficult to make a distinction between open and axial coding. In fact, the main purpose is to identify relationships in the data which trade-off the demands for complexity versus the general applicability of the emergent relationships. Straus (1987, p. 109) emphasises that: "The idea is to have a theory that is conceptually dense and that has specificity, plus enough theoretical variation to enable it to be applied to many different instances of any given phenomenon".

The main analytical tool used in this research was the paradigm model which will be discussed in full details in chapter eight.

4.15.3 Selective coding

Selective coding is “the process of integrating and refining the theory” ((Strauss and Corbin, 1998). It has three steps of selective coding, which are “discovery central category”, “integration”, and “refining the theory” (Strauss and Corbin, 1998).

Selective coding involves identification of the core category and relating it systematically with all the other categories, and description of the emergent substantive GT (Strauss and Corbin, 1998). Strauss and Corbin (1990) described selective coding as a five step process which are presented in Table 4-5.

Table 4-5: Strauss and Corbin’s (1990) Selective Coding Process

Step	Definition and process
1: Explicate the story line	A single core category, relating to the central phenomenon, must be selected. The researcher must then conceptualise a descriptive story line based on the central phenomenon.
2: Relate other categories to the core category	Other categories are related to the core category in a paradigm model.
3: Relate categories at the dimensional level	Patterns are uncovered in the form of relationships between properties and dimensions of categories. These patterns give the theory specificity.
4: Validate those relationships against the data	To ground the theory it needs to be validated against the data to see how well they fit.
5: Fill in categories which may need further refinement and development	It is then possible to go back to the categories to fill in anything that is missing and add to the conceptual density of the theory.

Source: Adapted from Strauss and Corbin (1990).

Strauss and Corbin (1990, p.58) remark that the distinction between the three types of coding are artificial and that "in a single coding session, you might quickly and without self-consciousness move between one form of coding and another, especially between open and axial coding"

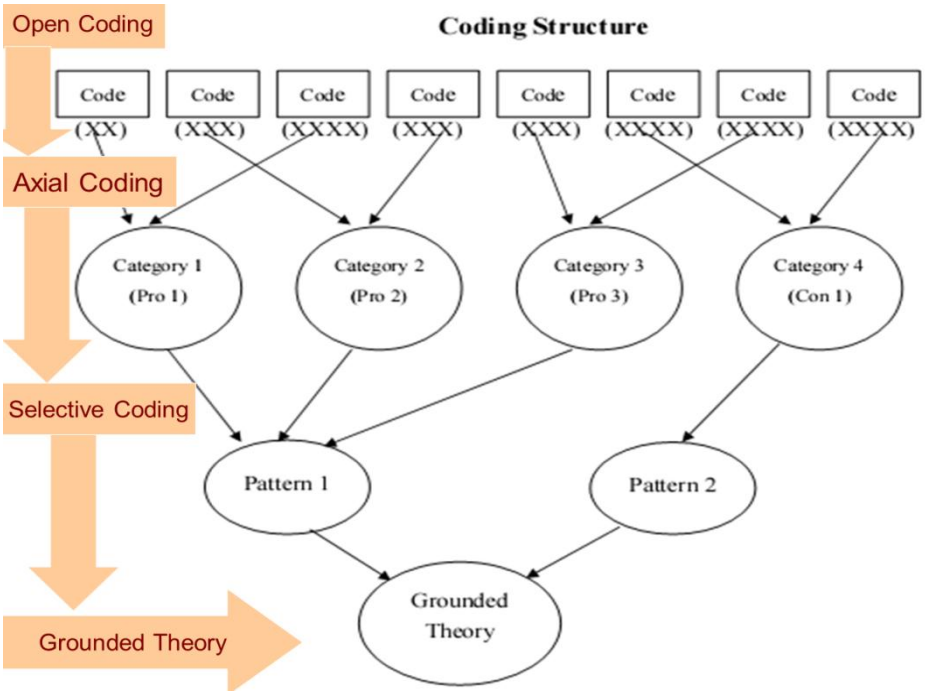
There are several techniques that can be used to facilitate the integration process such as telling or writing the storyline, using diagrams, sorting and reviewing memos and using computer programmes (Strauss and Corbin, 1998, p.161).

4.16 Coding structure process

After all, as a conclusion, it was attempted to find out a correlation between the results and the research questions. According to Strauss and Corbin (1998) this approach is quite useful, because it links perceptions to actions and develops a contextualized theory from the data collected. It should also be mentioned that the data collection, coding and analysing process were all carried out manually.

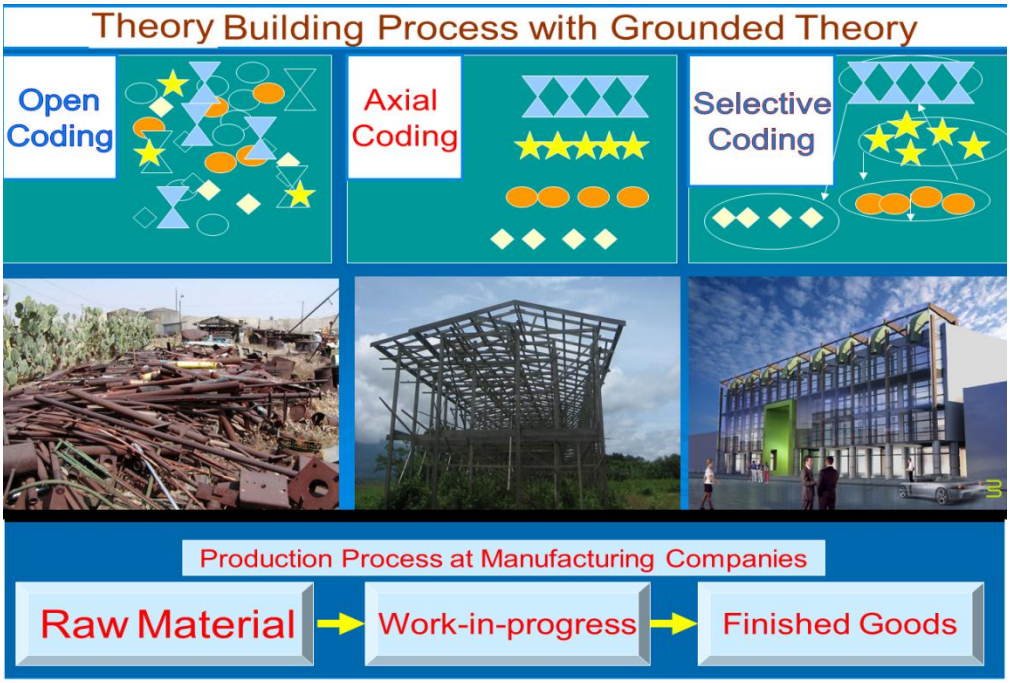
To get a sense of how these procedures have been conducted, the researcher has portrayed the three coding procedures which are shown in Figures 4-5 and 4-6 below. Figure 4-5 graphically presents a map of theory building process with grounded theory, and Figure 4-6 illustrates the conceptualisation process of theory building with GT.

Figure 4-5: Map of theory building process with grounded theory



Source: Developed by the researcher.

Figure 4-6: Conceptualisation of theory building in grounded theory



Source: Developed by the researcher.

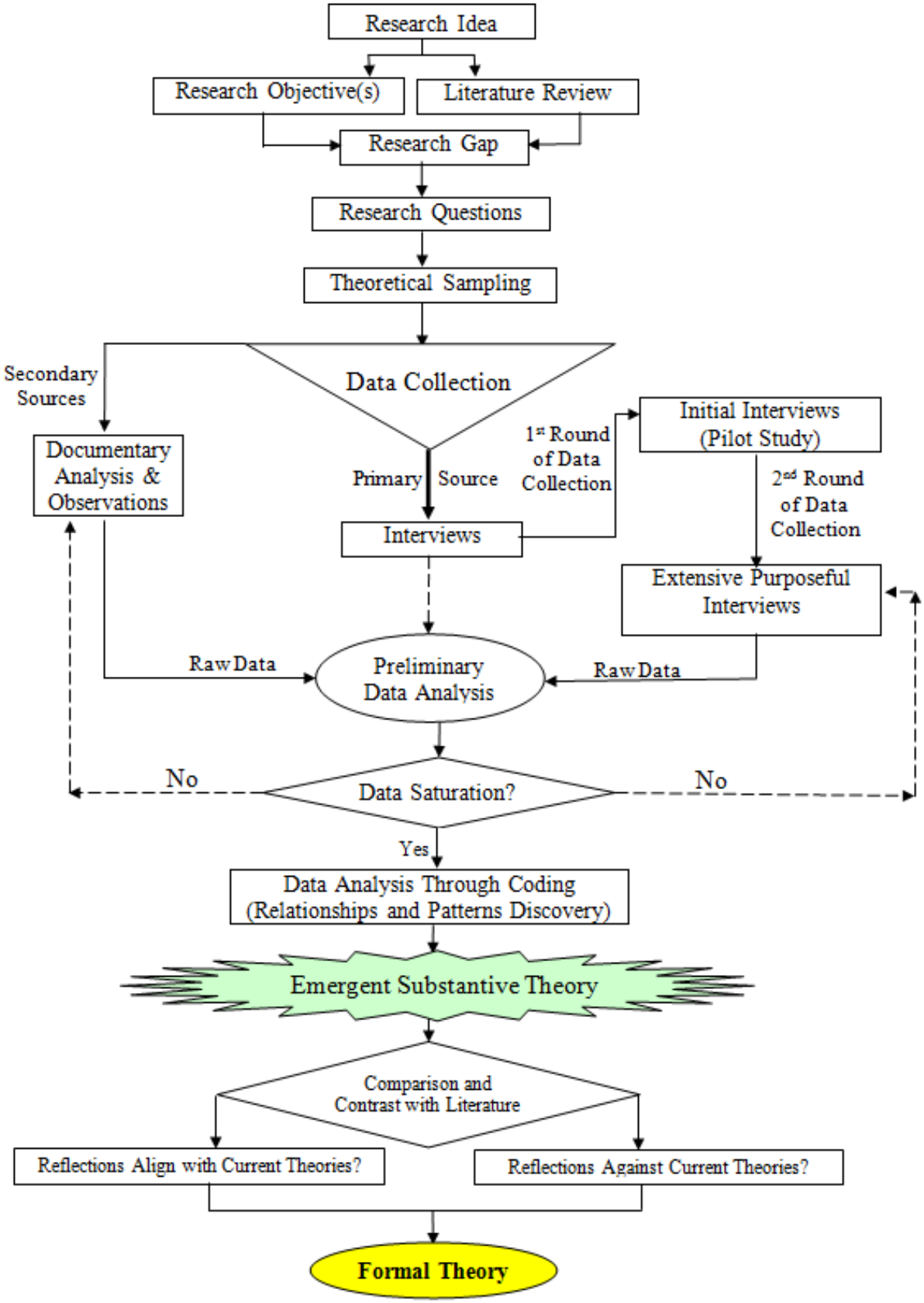
Full details of how data were analysed and how open, axial and coding categories were created will be given in chapters 6 to 8.

4.17 The research process (empirical plan)

As a part of this research project it was tried to find out the University's understanding and knowledge (at different levels) of the performance management phenomenon and its translation into practice in the real working environment.

The pragmatic research process of this study illustrated in the following flowchart (Figure 4-7) is basically the mechanism to conduct this research journey through the appropriate methodology (stemming from the researcher's ontology and epistemology, and also the objectives and questions of this research). The literature review would help researcher formulate his/her research questions (Strauss and Corbin 1998) and establish a relevant methodology to accomplish the research.

Figure 4-7: The research process flowchart



Source: Developed by the author.

4.18 Research site (the case studied)

As it is briefly mentioned in chapter 1, and will be also discussed extensively in chapter 5, this research only focuses on a state affiliated university, Petroleum University of Technology (PUT) which is affiliated to the Petroleum Ministry of Iran.

Motives for selecting the country of Iran are twofold. Firstly, the phenomenon of performance management in universities in Iran is lacking. The second reason is because of the nationality of the researcher who is Iranian and holds an immediate understanding of the environment and possibility to obtain full accessibility to the research site (Patton, 2002). Therefore, this study was driven by a need to explore the phenomenon in a special case university within the context of a developing country, Iran.

The selection of PUT was influenced by three main factors. Firstly, PUT is one the eldest university founded in Iran in 1939 where the pillar stone of its economy is dependent on petroleum industry. PUT has an internationally recognised reputation of educating expert man-powers for the oil and gas industry over its operation. The main task of the University is to educate specialised human resources mainly in the field of upstream engineering (including oil, gas, petrochemical, reservoirs, exploration, drilling, exploitation, fire, health and safety) and to some extent accounting and management. The University therefore, on the one hand, has to operate within the rules and regulations of the petroleum ministry. However, on the other hand, being a university, PUT has to meet the Higher Educational requirements of the Ministry of Science, Research and Technology (MSRT) of Iran as well. As a result, the University is working under the direct influence of two dominant ministries. This makes this University distinguished from other types of universities (governmental and non-governmental universities which are governed by one single ministry or organisation, but PUT is governed and influenced by two powerful regulatory and financing ministries (details are discussed in the next chapter). This makes its situation quite complicated. PUT has been selected to examine how it works and what are the impacts of such influences on its performance.

Secondly, the aim was to access rich information about the phenomenon under investigation (Patton, 2002). The third reason for the choice of the University was that it could be reached easily. This was important because time and financial resources were limited (Silverman, 2001).

The full details about Iran (history, economy, population, students, education systems etc.) and PUT (including the University's background, context, history, structure, vision, mission, programmes, management, internal and external environment, stakeholders, etc.) will be given in chapter 5.

4.19 Research questions

This study tries to gain an in depth understanding of the phenomenon of performance management practices within a case university and the way it is influenced by various parties and other variables and factors. In this regard and in order to attain the research objectives (mentioned in section 1.3 of chapter one), the following research questions were outlined:

1- What is performance and how is it conceptualised at the University?

This question first examines the concept of what performance is and its operational definition in terms of its nature, dimensions, properties, features, characteristics and criteria, and through discovering what makes it important in an organisation. This question also sets out to understand what practitioners (non-teaching employees or executives) and academics (teaching faculty members) within the University consider performance to be. This question will also help to understand how the way the university is run promotes or hinders performance conceptualisation. This questions attempts to address the first objective of the research.

2- How is performance measured, managed and reported by the University?

The aim of this question is to realise how and at what levels the University measures, manages and reports its performance to the related stakeholders. It will also reveal the measurement and management practices and systems which are used by the university (if there are any systems used), and also to understand how the way the university is run, promotes or hinders performance measurement and management. This question addresses the objective one in this study.

Based on prior knowledge and theoretical sensitivity, the first two research questions to be pursued are "How is performance conceptualised, and measured, managed and reported by the University?" These two research questions fit with Strauss and Corbin's (1990) assertion

that "… the main purpose of using the grounded theory method is to develop theory". To do this, we need a research question or questions that will give us the flexibility and freedom to explore a phenomenon in depth. Asking an initial research question is a further point of difference between the Strauss and Glaser schools of thought. Glaser (1992, p. 25) argues that "To repeat, the research question in a grounded theory study is not a statement that identifies the phenomenon to be studied. The problem emerges and questions regarding the problem emerge by which to guide theoretical sampling".

3- What and how are key performance indicators (KPIs), measures, and metrics used by the University to measure and manage its performance?

This question tries to determine what KPIs, how and at what levels the University uses to measure, evaluate and manage its performance. This question has been raised with regard to the second research objective.

4- How and to which extent is accounting information used in the process of performance measurement and management at the University, to evaluate the performance for reporting to the relevant parties?

This question addresses the concern if or not the University uses any information produced by its accounting system to measure its performance. If the answer is yes, then to what extent the information are used for this purpose. This question is also related to second objective of this research

5- How and to what extent do stakeholders (governing bodies) affect the University's performance? And what are the outcomes of such influences?

As the University is not independent or autonomous, therefore the acts and influences of the stakeholders (rules setting body, financing body, etc.) might affect the University's performance. This question tries to find out the impacts (either positive or negative) of such situation on the University's performance management as well as the ultimate performance. From another perspective, what do stakeholders expect or require from the University and the outcome of such expectations and requirements. This question concerns the third research objective.

6- What are other main internal and external factors affecting the University's overall performance?

Finally, the aim of this question is to find out any other possible internal or external factors which might have any kind of effects on the University and its overall performance. This question is associated with the last objective of this study.

The above broad and tentative research questions were to be reviewed in the course of data collection and analysis in order to focus more on issues that emerge as significant to the participants. Finding the appropriate answers to these questions, would shed new lights on the University overall performance measurement and management to reach the objectives of the research.

4.20 Data collection

Many research methods can be used to collect data to answer questions of what, how, and why. But the research methods used in any research study are selected based on the nature of the research objectives and questions. As a result of taking GT to conduct this research, the researcher has to move within the GT implications to collect the required data. Unlike other qualitative methodologies which acknowledge only one source of data, for example the words of those under study as in the case of phenomenology, GT research may be based on single or multiple sources of data. These might include interviews, observations, focus groups, life histories, and introspective accounts of experiences.

As Le Compte and Preissle (1993) state, the criteria for selection could be based on theoretical or conceptual considerations, empirical characteristics, personal curiosity, or other considerations. Since this research is carried out by means of qualitative research methods and its objective is not generalisation, therefore it uses a non-probabilistic sampling method to select interviewees. It is preferable and justifiable as it does not depend on the rationale of probability theory (Merriam, 1998, p. 61). In other words, he research uses a purposeful sampling method to select “information-rich cases” (see Merriam, 1998, p. 61). According to Patton (1990) such information-rich cases help the researchers could learn the maximum from the issues that are of central importance to the purpose of the research.

“Purposeful sampling is a method used when there is clear rationale for selecting participants for the sample group to be studied or tracked” (Champion, 2002, p.2). Moreover, this sampling method is supported by Yin’s (1994) idea that states sample selection should be ordained through a replication logic, instead of a statistical method. In order to collect the

correct data regarding the phenomenon being studied, the researcher should investigate precisely how many, whom and when to interview. Therefore, in this research based on the purposive sampling technique and in order to collect sufficient data, a total of 44 interviews were carried out. Consistent with the principles of theoretical sampling in grounded-theory research designs, small samples are not uncommon and do not interfere with forming a theory that reflects the raw data (Coffman, 2004; Wicks, 2004). The data collection process took around 3 years which was progressively conducted from September 2009 to December 2012.

Interviews are heuristic in nature which provide rich data. That is why interview is a popular method for data collection. On supporting interviews, Gray (2004, p.214) claims that: "Interviews are also useful where it is likely that people may enjoy talking about their work rather than filling in questionnaires. An interview allows them an opportunity to reflect on events without having to commit themselves in writing, often because they feel the information may be confidential".

In order to collect the correct information, those interviewees were selected who were expert in their fields and have had the most knowledge and experience of the phenomenon (performance measurement and management) being investigated. In addition, since in this study the researcher was going to investigate a phenomenon from a variety of aspects and dimensions, a cross section of people were selected who were aware and involved in these issues and ranged in different positions, authorities, levels and functions. At this phase, researcher started identifying interviewees using "judgemental sampling". According to Patton (2002), "judgemental sampling" helps researchers adopt their own judgement in identifying the sources of data to assist them achieve appropriate understanding on a particular phenomenon being investigated.

Thus the interviewees included the chancellor of the university, vice chancellors, deans/heads of faculties, vice deans, programme directors, faculties members, head of planning department, head of personnel department, head of IT department, financial manager, heads and senior staff of finance and accounting departments of faculties, chief executive officers, heads of libraries, and senior clerical/administrative staff.

As mentioned above, in the research the interview method was used as a primary source (principal method) of data collection. This method enabled the researcher to ask complex questions and obtain insights which would be quite difficult or even impossible with other methods. As Collins and Hussey (2003) say, through interviews researchers can get a

higher degree of confidence in the responses than questionnaires and also we observe the non-verbal behaviour of the interviewees. One of the other features of interview is that the researcher may find out some other topics or issues which would not have been in his/her thoughts (Babbie, 2004).

It should also be noted that, because of analysing different aspects of the same phenomenon in this study, the issues discussed and questions raised varied from one interview to the next. Therefore the most appropriate and effective method to meet this requirement was face to face semi-structured, and to some extent, unstructured interviews.

During the interviews, the researcher asked interviewees to explain their understanding of the phenomena (performance, performance measurement and management practices and systems); how important they considered such practices were in their organisation, and whether, why they were more or less important than other areas of the organisation; the usefulness of these practices in measuring, managing and reporting performance, and its impact on the overall performance of the University; their belief of what was happening within the case; the challenges/barriers they encountered in implementation of practices; the influences and pressures imposed from the external stakeholders, and the future directions they believe the University would/should take, etc.

The opening questions were generated with regard to the primary research objectives and questions, and also the interviewee's background and the field which he/she was working by using to some extent the existing management accounting literature on the performance management. Further questions were constructed, developed and continued with the results from the participants' response and reaction to the earlier questions. It should be noted that the interviewees were encouraged to impart their opinions in their own words. Even if the respondents raised other issues outside the scope of interview questions, they were welcomed and encouraged to elaborate on them.

Additional data have also been collected from secondary sources; such as: documentary analysis (the University reports, archival records, statistics) and direct observations.

Parker and Roffey (1997, p. 217) state that: "Grounded theory research methods take symbolic interactionist methods into account. However, whereas `interactionists regard (observation of) human interaction as their basic source of data' (Denzin, 1989), grounded theory generation includes additional data sources such as interviews', written reports and documents that relate to the research phenomenon".

Although Glaser (1992, p.49) states that: "Observational data is not enough. The researcher should provide interviews along with the observations so the analyst can get at the meaning of what is observed. Observations do not in and of themselves have the meaning or the perspective in them of the participants", but observation is a unique way of understanding what actually happens in a given situation.

Non-participating observations were made on several events, conference organising meetings, regular meetings in different settings (such as research council sessions), workshops, staff training courses, day-to-day group discussions as part of their normal working lives at different times and on different occasions, as well as vice-chancellors' and deans' meetings were observed to monitor and analyse their performance management related issues and interventions in action.

The empirical part of this research was carried out in two phases over a period of two months. The first phase, considered as the pilot study, included general unstructured face to face in-depth preliminary interviews with eighteen participants. From these interviews a guiding framework was created. Phase two of the research focused on more extensive and purposeful data collection which stemmed from the evolved framework of phase one and included an additional twenty four semi-structured interviews. A second field trip (as the second empirical part and the third phase of this research) was done to carry out additional interviews with those who had not been reached during the first phase of data collection and also to discuss, confirm, refute our findings and/or enlarge on the initial findings with the key interview participants.

Collecting data especially from top level authorities, managers and directors was a tedious and challenging task. It seems it has been always the case, as Zald (1969, p.110) says of his own work into the power and functions of boards of directors: "This work has been largely theoretical. At this point, there is a scarcity of meaningful data, and only at a few points have I been able to tie my arguments to evidence. Boards of directors are hard to study. Often they conduct their business in secret; their members are busy people; the processes themselves are sometimes most effectively described by novelists. Nevertheless, study is possible, and pieces of evidence can be brought to bear. The difficulty of study is more than compensated for by the theoretical and practical importance of the problem". These words, written more than fourty years ago, still ring true today.

In order to collect the correct data, it was quite important to consider whom to ask to take part in the interview. Then at the beginning of each interview the researcher briefly explained

for them that they have been chosen because they were specialist in their areas and already had an awareness of the key issues involved in the area of concern. The researcher was aware that the success of an interview could depend largely on the extent of the communication and conversation thus generated. Therefore it was tried to make the discussion encouraging free-flowing conversation, interactive and friendly. It was also tried to conduct the interviews when the participants were free or in a time which they had a light workload.

The interviews were planned in accordance with the qualitative research suggestions on how to conduct an effective semi-structured interview. The purpose of the academic research was fully explained to the interviewees. In this regard, the researcher elaborated that it was important to hear his/her opinion and there were no “right” or “wrong” comments to the issues raised and that the main objective was for the researcher to learn from the participant in order to gain an understanding of the phenomena. It was further emphasised the study was to be used just for academic purposes and assured the interviewees of anonymity and confidentiality. Each interview lasted ninety minutes on average. But they were not audio taped as the participants did not agree their vice get recorded. As a result and in order to maximize the benefits of the interview, the researcher took notes as quick as possible throughout the interview and used signs and abbreviations to be able to develop them immediately after the interview. Most of the participants refused to have their interviews recorded because the research topic and issues discussed were seen by the interviewees as sensitive, challenging and political. Nevertheless, this was not seen as a threat but an opportunity that participants could “tell me as it is”.

The notes were also taken about the eye contacts, the enthusiasm noted on each topic was discussed, any non-verbal interaction (body language), the speed of the discussion and any other means that could be relevant to the analysis. These notes were later processed and developed by adding the relevant context getting from the signs, numbers and the researcher’s memory within a few hours after the interviews so that fully transcribed interview documents were produced. Other documents, reports, statistics and journals were also received from some interviewees where it was possible and seemed to be useful.

Due to the nature of this research and in order to address the research objectives and questions, it was tried to hear as many perspectives as possible and that the researcher should be prepared to hear different and sometimes quite opposite opinions during the data collection.

Questioning techniques are quite important for doing semi-structured interviews. Asking wrong questions or even right questions but in wrong times will most probably get the wrong answers, or at least not quite what we are hoping for.

Asking the right questions in a particular situation is at the heart of effective communications and information exchange skills. It helps build stronger relationships, gather better information, manage people more effectively, learn more and help others to learn too. In general, there are two types of questions: Closed and open questions. Closed questions usually receive a single word or very short, factual answers. They are good for testing our or the other persons' understanding, concluding a discussion or making a decision, or frame setting. Misplaced closed questions sometimes can ruin the conversation and lead to awkward silences. In contrast, open questions elicit longer answers. They normally start with how, why, what. Open questions usually ask respondents for their knowledge, opinions or feelings. Other terms which can also be used in the same way as open questions are: "Describe" and "Tell me". Open questions are especially very useful when someone wants to develop an open conversation or find out more details or other issues.

With regard to the above, the researcher was aware that in order to get the high quality information, he had to ask the questions effectively. The panel of questions started with “Opening questions” followed by “Introductory questions” then moved to “Transitions questions” and reached at “Key questions”, and finally finished with “Ending questions”.

The different primary and secondary data collection methods used throughout this study is summarized in Table 4-6 below.

Table 4-6: Summary of Data Collection

No.	Documents Reviewed and Analysed	Interviews	Observations
1	Three 5-year University's mission, vision and strategy	One Chancellor Four vice-chancellors	Eight meetings and sessions on different occasions at different levels
2	Five years University's financial statements and audit reports	Five heads of faculties (deans)	Twelve Lectures
3	Contracts, memoranda of Understanding, and meeting records	Twelve heads of departments Seven academic staff	Four Conferences and seminars held at the University
4	University's reports, newsletters, handbooks, programmes, diagrams and statistics	Nine senior executive staff Two alumni Four professionals and support staff Six Informal interviews with colleagues and others	Five Workshops and Training programmes
5	University's website, charts, archival records and maps	**A total of Fourty-Four (44) official interviews**	Several day-to-day group discussions

Furthermore, details of the fourty-four interviewees (descriptive information) are presented in Tables 4-7 to 4-11) below.

Table 4-7: List of Interviewees – The Headquarters

Intv. No.	Position	Length of Service at University	Length of Service in Current Position	Age (yrs)	Interview Duration (minutes)
1	Chancellor	30	4	64	40
2	Deputy head of programme and plan	22	2	53	60
3	Vice-chancellor for education and graduate studies	15	3	57	45
4	Vice-chancellor for finance	20	4	48	40
5	Vice-chancellor for research	18	3	50	65
6	Head of budget (Financial controller)	6	2	35	50
7	Head of law dept.	17	6	45	35
8	Head of finance dept.	22	4	49	50
9	Head of human resources (personnel)	27	8	56	70
10	Head of public relations	6	1	30	50
11	Head of vice-chancellor's office	14	4	40	40
12	Vice-chancellor for student affairs	22	4	55	40
13	Head of internal audit dept.	10	2	40	45
14	External auditor	-	-	45	40
15	Head of security dept.	27	5	60	65
16	Senior personnel staff	12	7	37	80
17	Head of IT	23	9	47	55
18	Academic members officer	14	6	38	80

Table 4-8: List of Interviewees - Petroleum Faculty of Abadan

Intv. No.	position	Length of Service at University	Length of Service in Current Position	Age (yrs)	Interview Duration (minutes)
1	Head of Faculty-Dean	25	3	55	50
2	Deputy head for finance	28	7	59	60
3	Deputy head for education	15	3	46	45
4	Head of accounting dept.	8	4	34	60
5	Head of library	15	44	13	40
6	Deputy head for student affairs	19	4	43	40
7	Administrative & Personnel staff	10	3	34	90

Table 4-9: List of Interviewees - Petroleum Faculty of Ahwaz

Intv. No.	Position	Length of Service at University	Length of Service in Current Position	Age (yrs)	Interview Duration (minutes)
1	Dean	10	2	41	45
2	Deputy head for finance	12	3	38	50
3	Senior finance staff	8	3	34	80
4	Deputy head for education	10	8	32	100
5	Faculty member	15	12	44	70
6	Head of research centre	20	6	48	90
7	Head of personnel	23	4	43	50

Table 4-10: List of Interviewees - Petroleum Faculty of Tehran

Intv. No.	position	Length of Service at University	Length of Service in Current Position	Age (yrs)	Interview Duration (minutes)
1	Head of Faculty-Dean	25	3	55	50
2	Head of research centre	24	4	50	80
3	Head of education department	15	3	46	45
4	Head of professional training centre (PACT)	13	3	38	100
5	Head of accounting dept.	8	4	34	60
6	Head of library	15	44	13	40
7	Head of service department	13	3	50	50
8	Faculty member	30	30	65	120

Table 4-11: List of Interviewees - Petroleum Faculty of Mahmud-Abad

Intv. No.	Position	Length of Service at University	Length of Service in Current Position	Age (yrs)	Interview Duration (minutes)
1	Head of Faculty	19	4	44	45
2	Deputy head for finance	28	7	59	60
3	Administrative & Personnel staff	28	10	60	50
4	Senior executive officer	11	4	36	70

A list of some of the questions raised during interviews has been provided in Appendix B.

Having described the manner in which the sample was chosen and data collected, the next sections will now expand on the methods of data analysis.

4.21 Data analysis

“Doing qualitative research is not a passive endeavour… Rather, data analysis is a process that requires astute questioning, a relentless search for answers, active observation, and accurate recall. It is a process of piecing together data, of making the invisible obvious, of

recognising the significant from insignificant, of linking seemingly unrelated facts logically, of fitting categories one with another, and of attributing consequences to antecedents. It is a process of conjecture and verification, of correction and modification, of suggestion and defense. It is a creative process of organising data so that the “analytic scheme will appear obvious” (Morse, J.M., 1994, p. 25).

In GT methodology, data collection and analysis occur simultaneously throughout the research process. Hence with GT analysis drives data collection and vice versa such that the empirical results are expected to reflect the data (Strauss and Corbin, 1998).

The work of Strauss and Corbin (1998) in analysis and interpretation guides qualitative researchers how to mix various types of qualitative data sets (such as: interviews, observations, documents and notes, archival records, diagrams and maps, etc.) and generate interpretive categories and interpret them.

In this regard and in order to maximize the benefits of the interviews, the researcher took notes as quick as possible throughout the interviews and used signs and abbreviations to be able to develop them immediately after each interview. The notes were also taken about the eye contacts, the enthusiasm noted on each topic was discussed, any non-verbal interaction (body language), the speed of the discussion and any other means that could be relevant to the analysis. These notes were later processed and developed by adding the relevant context getting from the signs, numbers and the researcher’s memory within a few hours after the interviews so that fully transcribed interview documents were produced.

As it was mentioned earlier, at the data collection phase, interviews were not recorded as the participants preferred it to be done without any recording. However important notes, signs, figures, and abbreviations were all made, processed and developed promptly after the interviews. Then after, in order to respond to the research questions, the data gathered from different sources were analysed and interpreted through using a set of coding procedures (open coding, axial coding and selective coding) suggested by Strauss and Corbin (1998). They define coding as "the analytic processes through which data are fractured, conceptualised, and integrated to form a theory" (p. 3).

As the interviews were carried out along with data gathered from other sources, the collected data were analysed parallelly. This process continued until diminishing returns were reached and data saturation was achieved. This is according to Strauss and Corbin’s (1998)

statement that the sampling of individuals or organisations on the basis of emerging information continues up to the point of theoretical saturation. Theoretical saturation occurs when no new information about the emerging categories and relationships is generated by the additional data (Locke, 2001).

4.22 Validity and reliability

The credibility of any piece of research, whether qualitative or quantitative inquiry, depends on the rigour of the entire research process (Morse et al., 2002). Two basic criteria for judging rigour of research in both qualitative and quantitative research are reliability and validity (Whittemore et al., 2001; Morse et al., 2002).

Easterby-Smith et al. (1991, p. 41) explain that validity seeks to determine whether the researcher has gained full access to the knowledge and meaning of the informants. From an interpretive perspective, validity refers to the extent to which a researcher's account accurately reflects the features of a phenomenon that it is intended to describe, explain or theorise (Hammersley, 1992, p. 69). Reliability on the other hand reflects whether results of a study are consistent with the data collected, which is an issue that is more closely related to the above-mentioned grounded theory procedures.

On the other hand, readers want to know how well the researcher captured and interpreted the phenomenon in the research situation, and to what extent they can trust that the data upon which the findings were based is reliable. As a result, it is important for researchers to address this concern and take steps to ensure the validity and reliability of assertions resulting from their work.

This research employed strategies and tactics to ensure that the findings coming from this project were valid and reliable. This was achieved through careful consideration of each of the following major stages in the research project.

Firstly, the general familiarity with the organisation as well as the considerable length of time spent by the research helped him to build informal interactions and connections with the University members. This opportunity enabled the researcher to gain an in-depth understanding of the University, the way things were done, and the behaviours and attitudes

of members. It also enabled the building of trust, resulting in respondents becoming more open to share their views during interviews.

At the data collection phase, notes of the interviews were taken and elaborate immediately after the interviews while the discussion was still fresh in the researcher's mind. Furthermore, permission was sought to photocopy documents which were considered important for the research, and sometimes electronic copies were obtained. Where documents were too big to photocopy the researcher dedicated time to read through the documents and made detailed hand-written notes at the research site. Moreover, memos, as described earlier, were used to assist analytical thinking and to identify the issues emerging from the research.

Regarding the data analysis, the use of grounded theory data analysis procedures was considered adequate to ensure the validity and reliability of data analysis. The three levels of coding: open, axial and selective mean that the researcher is constrained to stay within the data, thus ensuring that the presented findings are grounded in the data. At this phase, the outcomes of the analysis were consistently validated by comparing them with the raw data.

In this study, the researcher mainly relied on in-depth interviews, complemented by elements of observation and the collection of documents. As a part of the validation process, some responses gathered from primary sources of data (interviews, observations) was tested against secondary data collected from the other different secondary sources (reports, news, archives, statistics, etc.).

Another technique used was host validation (Miles and Huberman, 1994). This entailed presenting the data to the informants. A second field trip (as the second empirical part of this research) was conducted to discuss, confirm or refute findings of the research and enlarge on the emerging themes with the key interview participants. At this stage, the interim findings and the emerging theory from the research were presented to some senior managers and academics at PUT. It was not practical to present the findings to all the interviewees. However this was not considered a major shortcoming as validation had been incorporated in the whole data collection process.

Discussions with colleagues were among a significant technique in conducting grounded theory research. The discussions and debates promoted analytical thinking as well as validated the theoretical thoughts.

Finally, direct quotations and thick descriptions of the findings have been used to satisfy the credibility requirement of research work (see Glaser and Strauss, 1967). The presentation of primary data in this way is aimed at giving the reader evidence that the conclusions derived are actually rooted in the data, as well as aiding the reader's understanding of the environment studied.

4.23 Summary

Chapter four discusses methodological issues of the research. In this chapter, the adoption of the grounded theory methodology for investigating, understanding and theorising the performance management phenomenon within the University studied, is proposed and justified. Grounded theory is an inductive approach for generating new theory from data. Furthermore, advantages, implications and challenges of using GT methodology in management accounting research are reviewed.

It is also argued why Strauss and Corbin's (1990, 1998) version of GT is preferred over Glaser's approach. This researcher supports the Strauss and Corbin's (1990, 1998) stance towards the desirability of prior knowledge and theoretical sensitivity, and the researcher believes that they provide a helpful framework for a researcher wishing to use grounded theory in practice. Parker and Roffey (1997) emphasise that Strauss and Corbin's (1990, p. 223) practical and procedural advice about how to handle large volumes of data is one major advantage of their approach.

In continue, research questions, data collection and data analysis parts are explained in detail. It is explained that the key grounded theory procedures include simultaneous collection and analysis of data, constant comparative method, coding procedures, memos aimed at recording emergent theoretical ideas, theoretical sampling to refine emerging theoretical perspectives, theoretical saturation, and integration of the emergent theoretical framework (Charmaz, 2000).

In continue, the data collection phase is adequately elaborated. The information on the fourty four face-to-face semi-structured interviews from different people at different positions within the University is given. It is also defined why and how interviews and other secondary sources are used in a GT study.

Finally, the chapter outlines the empirical analysis carried out by the researcher by undertaking the grounded theory methodology, through using open, axial and selective coding analytical procedures suggested by Strauss and Corbin (1990, 1998).
Given the justification for using a grounded theory approach, in the next steps, the following chapters describe how the Strauss and Corbin's (1998) framework was used to conduct a qualitative study in a specific university.

The next chapter reviews the research context (the country of Iran) and research site (the case university studied) to provide empirical evidence.

The fully detailed analysis through the set of open, axial and selective coding procedures suggested by Strauss and Corbin (1990, 1998) will be carried out in chapters six, seven and eight respectively.

Chapter 5

Research Context and Research Site

5.1 Introduction

This study seeks to explore and understand the phenomenon of performance management practices in the higher education system of a developing country, Iran, from the perspectives of participants. Thus, this chapter provides an overview of Iran, its history, society, culture, economy, political system, education systems, and other related issues with the aim of informing readers who are unfamiliar with Iran and specifically its higher education. This chapter also provides historical facts and figures as well as the current situation of the research site (the Petroleum University of Technology (PUT)). It elaborates on the University‘s vision, mission, academic structure including faculties and institutes, programmes, research centres and activities, international relations and collaborations, and other major issues related to the University.

5.2 Profile of the research context

5.2.1 Geography

Iran is located in the Middle East between Turkey and Iraq on the west, Afghanistan and Pakistan on the east; it borders the Persian Gulf and Gulf of Oman in the south, and newly independent states of former USSR in the north. The capital is Tehran. Iran's surface area is 1,648,195 km^2.The map of Iran with its neighbouring countries is illustrated in Figure 5-1.

Figure 5-1: Map of Iran and its neighbouring countries

In general, Iran with 2500 years of civilization, total area of 1.65 million square kilometers and average literacy rate of 79.4 % stands third in the world concerning the oil reserves and second concerning the gas reserves (Library of Congress, 2006). Hence, the country is capable of economic and entrepreneurship growth and major international activities.

5.2.2 History

The first Iranian state was the Achaemenian Empire, established by Cyrus the great in 546 BC. In 1501, the Savavis created a strong centralized empire and established Shia Islam as the official religion. The name Persia has been used as the name of the country until the year 1935. For the period after that, Iran and the Islamic Republic of Iran are used.

Persia has traditionally been a monarchy ruled by the shah. The clergy (that is, the *Ulama*) has always had great power and much influence on the shah, the affairs of the country, and its people in general.

In 19th century Persia became more influenced by foreign imperial powers, particularly Russia and Britain. Persia was engaged in two wars with Russia at the beginning of the 19th

century and was defeated by the Czarist army in 1828. This resulted in severe loss of territory and the right of the Czar to interfere in Iranian politics. Britain expanded its economic and political influence over Iran during this century. The result was that Iran steadily became more and more economically and politically dominated by the two foreign powers. In fact, this did not change until the Russian revolution (Arnoldi et. al., 1999).

Although dominated by two foreign countries, Iran was never colonised, the main reason being the rivalry between the two foreign powers. Instead of direct colonialism, both powers expanded politically and financially.

The history of 20th century Iran was dominated by three radical changes: first, an attempt to establish a constitutional government (1905-06); second, the attempt to industrialise and modernise the country (1960-68); third, the Islamic counterrevolution (1979) (Arnoldi et. al., 1999).

Events such as Russia's defeat in the Russian-Japanese war in 1904-05 and the weakening of the Qajar regime are two determinant factors behind the constitutional revolution in 1905-06. This led to the establishment of a constitutional government in 1906, with the establishment of a parliament. As a result, the Qajar dynasty was weakened and Russia and Britain were able to further increase their influence. Foreign interest in Persia increased with the discovery of oil and later with the outburst of the First World War.

The constitutional era ended with the coup d'état in 1921 and in 1925 Reza Khan was made shah, the first of the Pahlavi dynasty. The reign of the new shah meant a highly centralised and powerful dictatorship. The Pahlavi dynasty was grounded on nationalist and patriotic ideals. The second aim was to modernise Persia to conform to Western standards without losing the national identity (Menashri, 1992; Katouzian, 1981). Britain supported the new regime and maintained its economic activities, primarily in the oil sector.

In order to escape the dominance of Russia and Britain, the shah strengthened the ties between Iran and Nazi Germany. As a result, British and Russian forces invaded Iran in 1941, forced Reza Khan into exile, installed his son Mohammad Reza as the new shah, and appointed a new government. The occupying powers left Iran in 1946.

In 1963 the shah started very radical social reforms, the so-called "white revolution". The objective of the white revolution was a further modernisation and westernisation of Iran by

means of land reforms, industrial reorganisation, changed legislation (including the right to vote for women), and educational reforms.

The economic growth in the following decade was increasing based on oil revenues (Katouzian,1981). The social grid of the country was changed dramatically with a high rate of urbanisation, development of infrastructure, and industrialisation (Arnoldi et. al., 1999).

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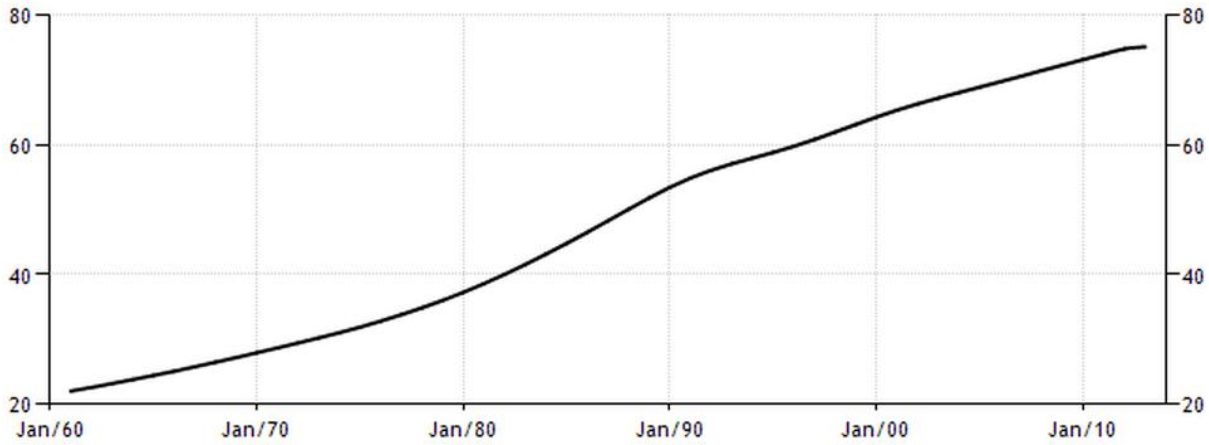
However, the quickly increasing urban population and the subsequent enormous increase in oil revenues in 1973 which was transferred into the social reforms and an overheating of the economy. The economic reforms caused social instability as unemployment increased and the general standard of living decreased which resulted in serious threats and new social problems (Hvidt et al., 1989). This economic collapse and the divide between the traditional Islamic culture and the modern Western style of life were two of the main reasons for the Islamic revolution in 1979.

The shah fled, and the Islamic Revolutionary Council was formed. On April 1979, the Islamic republic of Iran was established following the revolution ousting the Pahlavi dynasty (Library of Congress, 2006). Ayatollah Khomeini became the new leader. The clergy rapidly dominated the government. The aim of the new regime was to reinstate Shi'it Islamic values in all spheres of society (Arnoldi et. al., 1999). Therefore, the revolution is often characterised as a cultural revolution. The following decade was dominated by the social changes of the Islamic revolution. The other significant event was the Iran-Iraq war, which broke out in 1980. The war lasted until July 1988, when a cease-fire was agreed upon.

5.2.3 Population

According to the 2011 population census the total population in Iran was last recorded at 75.1 million people in 2011 from 19 million in 1956, changing 250% (a fourfold increase) during the second half of the 20th century (Figure 5-2).

Figure 5-2: Iran's population during between 1956 - 2012



Source: Statistical centre of Iran (http://amar.sci.org.ir)

Iran's population has been increasing dramatically during the last 50 years. Between 1976 and 1986 an average annual population growth of almost 4% was reached. However Iran's birth rate dropped significantly, and due to decreasing fertility levels the growth decreased to 1.3% between 2006 and 2011. Iran has one of the world's youngest populations, with more than half of the population has been under 35 years old in 2012. The ethnic division is 51% Persian, 24% Azerbaijani, 8% Gilaki and Mazandarani, 7% Kurd, 3% Arab, and 7% others. Table 5-1 shows Iran's population and its growth rate from 1960 to 2012.

Table 5-1: Iran's population and its growth (1956 – 2012)

Census date	Population	Average annual growth (%)
01-11-1956	18,954,704	.
01-11-1966	25,785,210	3.1
01-11-1976	33,708,744	2.7
22-11-1986	49,445,010	3.9
01-11-1996	60,055,488	2.0
01-11-2006	70,495,782	1.6
01-11-2011	75,149,669	1.3

Source: UN demographic yearbooks (http://unstats.un.org)

The majority of Iran's population lives in urban areas, and relies on an oil-based economy.

5.2.4 Economy

Iran is a country with rich resources of oil and gas and other natural reserves. Iran has been ranked as third country in the world in terms of oil reservoirs and second in terms of natural gas resources. Moreover, the oil industry in Iran with having a history of more than 100 years is a huge and vastly developed industry.

Iran is generally not considered as a developed country because its economy depends overwhelmingly on oil production and export. Lack of diversification in export portfolio and trade relations adds up the vulnerability of the country's economy and its overdependence on oil revenues. The government has attempted to diversify its income resources by investing a portion of oil revenue in the other sectors such as petrochemicals. Yet, much further economic reforms are needed if Iran's economy is to reach its full potential. Efforts to diversify the economy away from oil and gas need to be accelerated, trade liberalization has to be enhanced, and the role of the government in the economy should be scaled back.

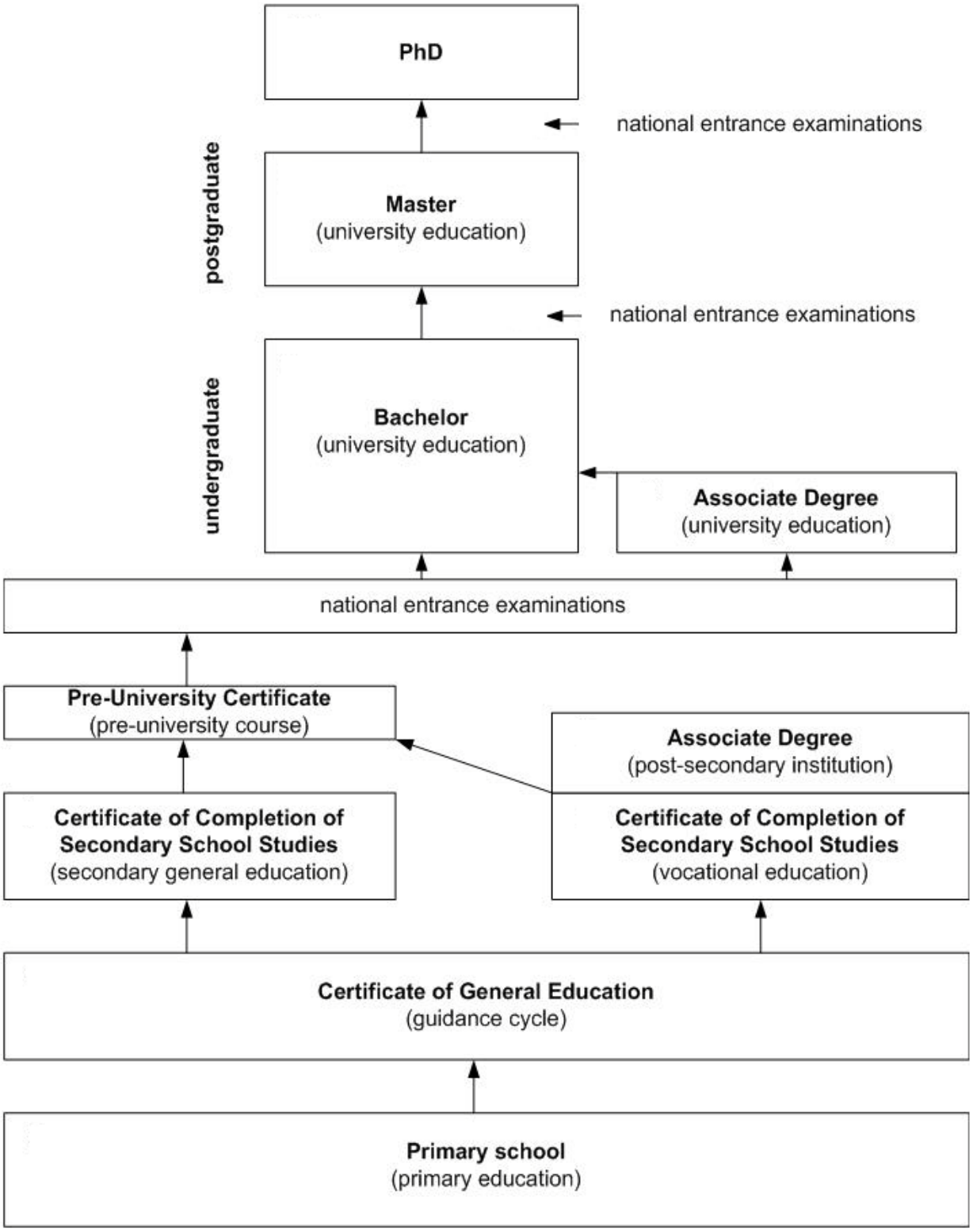
5.2.5 Education system

The Iranian education system is highly centralised; therefore, the influence from outside is limited. The Education Ministry is in charge of primary, secondary and vocational education, including teacher-training programmes, as well as educational planning, financing, administration, curriculum, and textbook development. Teacher training, grading, and exams are also the responsibility of the ministry of Education (Mehran, 1992).

Primary education is the first stage of formal education and lasts for five years. It is free and compulsory. The main objective of this stage is to reinforce the beliefs of students according to human nature and the bases of reasoning.

In summary, Figure 5-3 graphically illustrates the education system in Iran.

Figure 5-3: Education system in Iran



Source: Developed by the researcher.

5.3 Higher education

Higher education in Iran leads to the following degrees. The lowest level is the associate's degree. The next level is the B.A./B.S., followed by the M.A. (MSc). The highest level is the PhD level (doctorate). These courses are offered in a wide variety of subject fields (Social Sciences, Humanities, Natural and Basic sciences, Medical, Engineering, Agriculture, and Arts).

The institutions of higher education are divided into universities, colleges, technical or "higher" institutes, advanced schools, and teacher training colleges/centres. The term "colleges" normally means an institution offering university education. These institutions are often attached to universities as well. Technical colleges, technical schools, most of the teacher training colleges, and all the teacher training centres offer associate's degrees only.

In general, the following categorisation of the institutions of higher education are summarised in Table 5-2.

Table 5-2: Types of universities and higher education institutions in Iran

Institution type	Description
1. Public universities/colleges	These institutions are controlled by either the Ministry of Science, Research and Technology or the Ministry of Health (medical fields). Degrees offered are associate's degree, B.A., M.A., M.D., and Ph.D. Entrance is by the national entrance exam. The Distance Learning University (Payam-e Noor University), is also considered a public university, though tuition fees are required.
2. Private nonprofit universities/colleges	These are nonprofit, private, and subsequently fee-based institutions. The curriculum is approved by the Ministry of Science, Research and Technology, and the degrees (same as above) are recognised by the ministry. Entrance is through the national entrance exam.
3. Private universities/colleges	Only one institution dominates this category; it is Islamic Azad University (IAU). This is a private institution with its own entrance exam. It has the same curriculum as the above-mentioned institutions and offers the same degrees.
4. Technical institutes/colleges and teacher training colleges/centres	These institutions offer associate's degrees. The teacher training centres are attached to the Ministry of Education. Entrance to those institutions is not through the national entrance exam. Some teacher training colleges do not require completion of secondary education. Many of the technical institutes are closely linked to the technical/vocational secondary sector.

Source: adapted from (Arnoldi et. al., 1999).

There are no tuition fees at public institutions. Azad University and the Distance Learning University (Payam-e Noor) charge substantial fees. Also, the existing private colleges and universities charge tuition fees.

Islamic Azad University (IAU) was established in 1982 as the first private university in Iran. The IAU is currently the most autonomous and biggest University in country which is still private. It does not receive any money from the government. It is essentially a chain of universities more than 380 branches across the country and in other countries (such as: UAE, UK, Armenia, Tanzania, Lebanon) with the headquarters located in Tehran. Having a number of more than one and a half million students has made IAU the third largest university in the world as well. The IAU main sources of funding are student tuition fees and charitable donations. The Azad University runs its own national entrance exam itself.

The Distance Learning (Payame-Noor) University was established in 1987 and is regarded as a public university. Teaching was initially mainly through correspondence courses and by use of audio-visual materials, and some of the educational programmes were broadcast. But at the moment, like other proper universities, students of the Payame-Noor University attend the classes. Payam-e Noor is still expanding, with new branches in various parts of the country. Entrance is through the national entrance exam, and the degrees are recognised by the ministry.

Compared with the pre-revolutionary system of education, it can be seen that many of the smaller colleges have been merged with other colleges, thereby becoming universities or university-affiliated colleges.

Studies for the associate's degree normally last two or two and a half years. The B.A./B.S. requires four years of study, while the M.A./MSc (with some variations) takes an additional two years. Medicine, dentistry, and pharmacy require six years of study for the doctoral title, which is the first title. Architecture requires seven years of study. The Ph.D. programmes vary between four and six years.

Selection of applicants for university education is done through the national university entrance exam. This exam is given by the Ministry of Science, Research and Technology in May (first part) and June (second part). The exam consists of two tests: The first part is a general aptitude test, while the second is a test related to the specific field of study. Students coming from the new secondary system who have passed the one-year pre-university

course are required to take the second test only. Technical schools or institutes have their own selection procedure.

The number of students was standing at 175,675 in 1979 (MSRT, 2005). According to the latest statistics released by the Institute for Research and Planning in Higher Education (IRPHE, 2012), a total of 4,116,593 students enrolled in the academic year of 2010-2011 in governmental and private universities and higher education institutions, of which almost 50 per cent were female. It shows an increase of 23 times in the number of students over the last thirty years (since revolution).

Many young Iranians all over the country believe that the higher education is a vital way for finding a job opportunity. In the academic year 2009-2010, there were 3,790,859 students in public higher education including both public and private nonprofit institutions (IRPHE, 2012), indicating a 10% increase in the number of students compared with the academic year of 2010-11. If this pattern continues, it is expected in the academic year of 2011-12 the number of university students will reach to 4.5 million students.

Out of 4,116,593 students enrolled in the academic year of 2010-2011, a number of 38,910 students were PhD, 290,679 M.A./M.S., 2,680,817 B.A./B.S., 1,053,086 associate's, and 53,101 professional doctorate students.

IRPHE (2012) has reported that there were totally 2276 public state, affiliated, private, Azad and non-profit universities and higher education institutions, colleges and centres operating across the country.

A full detailed breakdown of the mentioned universities and higher education institutions and their coverage of students is provided in Table 5-3.

Table 5-3: All universities and higher education institutions in Iran

Universities and Higher Education Institutions	Number	Percentage of the Students' coverage
State-run universities	119	% 14
State affiliated universities	28	% 1
Higher education centres affiliated to the Ministry of Education	274	% 5
Payame-Noor (distance learning) Universities (No. of Branches)	550	% 22
University of Applied Science & Technology (No. of Branches)	581	% 11
Non-governmental, Non-profit Higher Educations Institutes	295	% 6
The Islamic Azad (Open) University (IAU)	385	% 38
Independent Universities of Medical Sciences (under the supervision and control of the Ministry of Health, Treatment and Medical Education)	44	% 3
Total	**2276**	**% 100**

Source: IRPHE (2012), (www.irphe.ir)

The Ministry of Science, Research and Technology (MSRT) is in charge of all tertiary non-medical education and the Ministry of Health, Treatment and Medical Education is responsible for medical education.

While the Ministry of Science, Research and Technology is in charge of most of the institutions, many of the ministries have special universities affiliated with them. These institutions are normally only used for the education and training of the specific ministry. They are, in one sense, not "public" institutions and, in another sense, "public" institutions.

5.3.1 Governmental versus non-governmental universities

In a broad categorization, the Iran's higher education sector is generally divided into two major sectors: governmental (including state-run and distance learning universities, covering %36 of the universities students) and non-governmental (especially the IAU which covers %38 of population of the universities students).

Governmental universities are under the tight control, finance and management of the government. At the time of government's revenue pressures, this sector experiences budget reduction or increased pressures on funding streams for education, research and other administrative activities.

On the other side, non-governmental universities operate autonomously and receive no fund from the government, yet under the supreme surveillance and observation imposed by the government, making them meet and address the country, government and MSRTs' rules and regulations.

Both sectors receive fund (governmental universities from government and IAU universities from their central office) based on the number of their students and expenses of their normal activities. In other words, they do not receive money based on their performance, quality, research, achievements, or any other performance measures. Thus, although the AIU sector is benefiting form a rather degree of autonomy, but none of these two sectors are competitive. This is consistent with Sorlin (2007) who states that as competition for money becomes stronger then the notion of performance based regimes will become ever more popular in dealing with resource allocation in higher education systems.

Receiving fund from government has made governmental universities accountable to the government. Their accountabilities are mostly fulfilled through their financial statements and other official reports along with other inspecting and audit reports to the related authorities and organisations. The main purpose is to make sure the budget they receive is used according the rules and regulations set for them.

Within the non-governmental sector, the lack of direct accountability to the government, has provided a unique freedom and an opportunity for this autonomous higher education sector to operate freely, without imposed limitations, and possess their capability to develop their own strategic direction and increase their efficiently and effectively and enhance their quality to compete with the governmental universities. The AIU authorities claim they have been successful in this regard, but governmental universities actually are still more reputable with better quality of education. However, comprehensive studies should be undertaken to analyse and compare these two sectors' performance.

5.4 Petroleum University of Technology (PUT)

As it was briefly mentioned in chapter one and in more detail in chapter four (section 4.17), this research only focuses on a state affiliated university, Petroleum University of Technology (PUT) which is affiliated to the Ministry of Petroleum of Iran. This makes the University distinguished from the two types of universities (governmental and non-governmental universities mentioned in section 5.3). They are governed by one single ministry or organisation, but PUT is governed and influenced by two powerful regulatory and financing ministries (Ministry of Petroleum and MSRT).

The Ministry of Petroleum is in charge of all the affairs related to the oil, gas and petrochemical issues (exploration, exploitation, refining, maintenance, distribution, import, export, etc.) in the country. It is obvious that such a large and complicated organisation with many different responsibilities and operations at the national and international levels requires highly talented and educated expert manpower. To address this issue, PUT has been training and providing needed highly qualified petroleum engineers for the Petroleum Ministry.

PUT is an internationally well recognised university worldwide which has trained and introduced strong expects to the world of petroleum industry over its more than seventy years of history. In the course of many years since its establishment, the Petroleum University of Technology have taught and trained students in the fields and disciplines relating to the petroleum industry. The university's graduates played a dominant role at the time of Iranian oil nationalisation (when foreign companies and experts left Iran) and contributed significantly towards the independence of the country's oil industry sector.

The above statements indicate the importance and considerable position of the University.

In recent years, in light of the rapid and extensive advancements in the upstream sector of the oil industry as well as the need of the country to have access to the newest scientific and technical innovations and findings, PUT has begun quantitative expansion of its programmes to meet the growing needs of the oil industry sector in Iran.

5.4.1 University's mission and vision

PUT is Iran's pre-eminent centre for education, training and research in petroleum engineering, geosciences and management sciences. It is a specialist scientific and

industrial oriented academy among other universities in the country which provides higher education in upstream field in the oil, gas and petrochemistry and other related fields. The other main university's responsibility is to be active in research to provide a firm basis for solving petroleum industry problems and promote the quality of services through the research achievements and innovations.

Each year the University selects from among the best students through interviews and national examination. It provides high quality education to undergraduate and post-graduate students. The programmes offered by the University include a wide variety of courses that are basically designed to meet the demands of the oil industry in Iran.

By relying on its successful experiences in education and training of human resources in oil and gas industries and by taking stock of the knowledge and achievements of other educational centres, PUT intends to conquer the pinnacles of science in oil and gas industry with the help of its qualified faculty and talented student body.

The university's vision has been stated as: "To transform the University into a leading centre of excellence in the region and maintaining this lead"[4].

Below are also outlines of the tasks and objectives:

1. To recruit highly qualified members of faculty and creating favourable conditions for their promotion and advancement.
2. To attract talented students through entrance examination and interviews.
3. To establish working relationships with the world class universities in upstream fields with a view to building joint collaborative relationships.
4. To train human resources in the fields needed by the oil industry for undergraduate and graduate programmes.
5. To foster and promote research activities in the University.
6. To foster cooperation between the University and petroleum meeting the growing needs of this industry.

[4] Adapted from the University's internal documents.

5.4.2 University background

The Abadan Technical School (ATS), affiliated to the Iranian oil industry, was one of the first technical schools in Iran that began offering courses to students in 1939. It was in fact, the beginning of the official higher levels of education within Iran's petroleum industry.

The ATS's educational system was a combination of education and practical training in technical disciplines and engineering. In other words, those students who were accepted and recruited as staff, studied for two fifth of their time at ATS and worked the rest at the Abadan refinery receiving practical training. It was a five year programme in which the first year was a pure preliminary theoretical education followed by a four years of studying-training. In the end, graduates would become technicians in refining, oil chemistry, electrical and mechanic engineering. Usually, after graduation, they would take high positions as educated technicians at Abadan refinery.

Seventeen years later (i.e. in 1956) and as a result of rapid changes and developments in the educational system of petroleum industry, the ATS was renamed Abadan Technical College (ATC). Furthermore, it was decided that ABT concentrates on general engineering courses. Students who finish their fourth grade of high school should sit for the entrance exam and be interviewed to get admitted into the ATC. This system was run in this manner until 1961.

In 1962, and as a result of contemporary changes, the ATC was reorganised into an institute and renamed Abadan Institute of Technology (AIT).

At this stage and according to the needs of the oil industry a new curriculum was started to focus more on educating and training in the field of oil engineering (majoring in refining, petrochemistry, exploration, and exploitation) and also for business and administration (majoring in management and accounting). In this period, students used to study for three years at the AIT and receive one year of practical training in different units and departments of the oil industry. Upon completing their four year BSc programme, graduates were normally recruited by the industry. As a result of such plan and during years 1966 to 1980, a total of 269 students graduated from the AIT as new generation of the educated engineers, accountants and managers. In this period and due to different changes some fields of study were removed from or included into the curriculum to address the oil industry's concerns and requirements.

In 1980 to important things happened which affected the whole country and its higher education system including AIT. Firstly Iraq attacked Iran and Abadan was among those first

places which was attacked, bombed and occupied at the start of the imposed war. As a result, it was impossible for AIT to continue its operations in Abadan and was transferred to Gachsaran and then to Isfahan for a short period of time and then finally to Ahwaz.

The second important event which occurred in 1980 was the “Cultural Revolution” in Iran which resulted in universities closure for about three years. In 1981, universities were re-opened and the AIT was moved to Ahwaz and continued its activities for about six years (up to 1989) under the name of Abadan Institute of technology (AIT) in Ahwaz. The “Cultural Revolution” had also caused significant changes in the AIT’s educational systems and management.

By 1989, there were nine educational and training units within the Petroleum Ministry. In 1989, the Ministry of Culture and Higher Education of Iran which was in charge of all universities across the country, permitted the Ministry of Petroleum to preside over all its educational units under an umbrella. As a result of such permission, the AIT was converted into a full-fledged university named the Petroleum University of Technology (PUT).

Out of those nine institutes, three of them (Ahwaz Technical School, Ahwaz Oil Engineering College, and Ahwaz Nursing College) were located and operating in Ahwaz. The rest were situated in Abadan. The PUT “Research Centre” was also established later in 1992 in Ahwaz

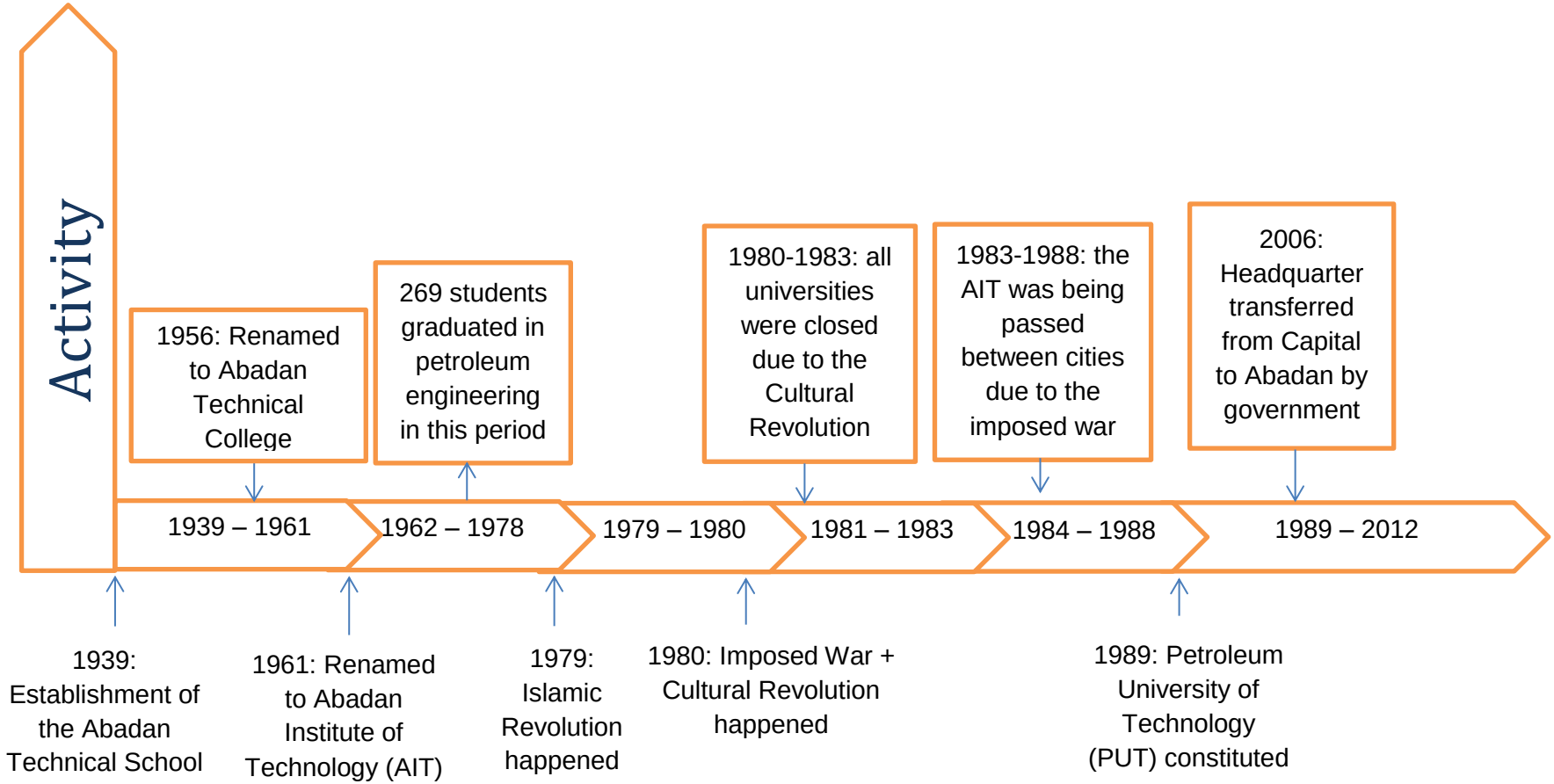
There were five educational units operating in Abadan. Among these five, was the Martyr Tondgooyan Chemical and Petrochemical Engineering Collage (established in 1991 in the previous place of AIT in Abadan.

Tehran College of Accounting and Financial Sciences was the only college affiliated to the Ministry of Petroleum which was located in Tehran and was in charge of educating and training accountants and managers (offering BSc accounting and management programmes) needed by the oil industry.

The headquarters was also located in Tehran which was managing, coordinating and directing all the PUT activities. It was the case until 2006 in which it was transferred to Abadan due to the government’s order.

The diagram illustrated in the Figure 5-4 shows the changes happened over the seventy years of life of the PUT. As it is clear from the diagram, the University has gone through many fluctuations (ups and downs) in its history. Such changes have created considerable effects on the University performance.

Figure 5-4: History of the University



Source: Developed by researcher

At the present, PUT Consists of four faculties, three research centres and one simulation laboratory which they are all located in different cities and locations which are quite far from each other. They offer courses and programmes for the training and education of the qualified human resources of the petroleum industry. The four faculties of the University are:

1. The petroleum faculty of Abadan (located in Abadan city)
2. The petroleum faculty of Ahwaz (located in Ahwaz city)
3. The petroleum faculty of Tehran (located in Tehran city)
4. Faculty of Marine Sciences of Mahmoud Abad (located in Mahmoud Abad city)

The above four cities are specified in the map of Iran illustrated below (Figure 5-5). It gets a sense of their geographical situation and dispersal.

Figure 5-5: Locations of the PUT faculties across the country

In the next sections, more details on each faculty as well as the headquarters will be given separately.

5.4.3 The Headquarters

The headquarters is the central building located in Abadan which serves as the main administrative centre of the University. It is about five kilometers away from the petroleum faculty of Abadan. This vice-chancellor's office, offices of the all deputies and their affiliates as well as the public relations office and head of securities office are all located in the headquarters. The board of governors' meeting and other important session are usually held in the headquarters. The headquarters was in Tehran since the University's initiation (1989), but transferred to Abadan in 2006.

5.4.4 Petroleum Faculty of Abadan

The Abadan faculty of petroleum benefits from a building with a unique architecture which is among the historical sites of the city and registered as one of the cultural heritages of Iran. The Figure 5-6 is in fact a picture of the faculty of about half a century ago.

Figure 5-6: Petroleum Faculty of Abadan (established 1939)

Due to its rich history, the faculty is very proud of its background and reputation and the fact that many of its graduates are among prestigious experts in the oil industry across the world. There are currently four academic groups available in the faculty and various disciplines are taught (Table 5-4).

Table 5-4: Groups and Programmes - Petroleum faculty of Abadan

Groups	Programmes / Courses	Level
1. Safety Engineering and Technical Inspection 2. Safety Engineering and Environment 3. Oil Exploration Engineering 4. Basic Sciences and Foreign Languages	Safety Engineering and Technical Inspection	BSc Degree
	Technical Inspection Engineering	BSc Degree
	Safety and Technical Environment Engineering	BSc Degree
	Oil Exploration Engineering	BSc Degree
	Chemical engineering: Fire Engineering	BSc Degree

Students at the petroleum faculty of Abadan have access to various facilities, such as library, computer site, restaurant and accommodation, gymnasium and research centre.

5.4.5 Petroleum Faculty of Ahwaz

The Ahwaz faculty of petroleum is one of the faculties of PUT that was launched in 1989. This is the biggest faculty of the University with six academic groups teaching various courses in oil and gas fields at the both BSc and MSc levels. The Table 5-5 presents a summary about the groups and programmes in the Ahwaz petroleum faculty.

Table 5-5: Groups and Programmes - Petroleum Faculty of Ahwaz

Groups	Programmes / Courses	Level
1- Drilling and Production Engineering Group 2- Reservoir Engineering Group 3-Gas Processing and Transportation Group 4- Basic Sciences and Foreign Languages Group 5- Instrumentation and Automation Group 6- Oil Exploration Engineering Group	Gas Processing and Transportation	MSc Degree
	Oil Drilling and Production Engineering	MSc Degree
	Chemical Engineering: Reservoir Engineering (Hydrocarbon)	MSc Degree
	Oil Reservoir Engineering	BSc Degree
	Petroleum Production Engineering	BSc Degree
	Gas processing and transportation	BSc Degree
	Drilling and Production Engineering	BSc Degree

5.4.6 Petroleum Faculty of Tehran

The petroleum faculty of Tehran is a part of the University which is located in Tehran city. This faculty was used mostly for accounting and management programmes at the BSc level from 1989, but at present various programmes are taught at different levels (see Table 5-6 for detailed information).

Table 5-6: Groups and Programmes - Petroleum Faculty of Tehran

Groups	Programmes / Courses	Level
1- Energy Management and Petroleum Economics Group 2- Management and Basic Sciences Group 3- Accounting Group	Oil Drilling and Production Engineering	Ph.D. Degree (joint programme with Sharif Uni. & Research Institute of Petroleum Industry (RIPI)
	Oil Exploration Engineering	Ph.D. Degree
	Oil Reservoir Engineering	Ph.D. Degree
	Oil Exploration Engineering	MSc – Dual Degree
	Oil Drilling and Production Engineering	MSc – Dual Degree
	Chemical Engineering: Reservoir Engineering (Hydrocarbon)	MSc Degree
	Instrumentation and Automation Engineering	MSc Degree
	Accounting	BSc Degree
	MBA Programmes, Petroleum management and economics, Chartered accountancy CIMA	MSc Degree & Professional Certificates

The MSc dual degree (DD) programmes is an opportunity for students to spend part of the time at the Tehran faculty of petroleum and another part at the collaborating university outside of country. After selection and approval of the thesis by the two universities and successful completion of the courses, two separate Master's degrees are granted to the students. The PhD programmes are run at the Tehran faculty as well. This programme is conducted with the collaboration of Sharif University of Technology and research institute of petroleum industry (RIPI).

5.4.7 Marine Sciences Faculty of Mahmoud Abad

Mahmood Abad is the capital of the Mahmood Abad county in the province of Mazandaran which is located in the north of Iran.

Mahmood Abad Faculty of marine sciences is located in the southern side of the Caspian Sea, about 200 kilometers northwest of Tehran. The Faculty began its work in 1984 offering courses on marine sciences and 1989 became one of the affiliated units of PUT and started training and educating experts in the fields relating to marine sciences. A summary of the academic groups and programmes are presented in table 5-7 below.

Table 5-7: Groups and Programmes - Marine Sciences Faculty of Mahmoud Abad

Groups	Programmes / Courses	Level
1- Shipping, Control and Navigation Group	Marine Engineering	BSc Degree
	Sea Navigation	BSc Degree
2- Basic Sciences and Foreign Languages Group	Second Mate Officer	Certificates
	Third Engineering Officer	Certificates

There are courses on sea navigation, deck operations, marine engines, electronic and communications. The graduates of these programmes can serve in marine and shipping organisations, especially at the National Tanker Company, Offshore Oil Company, and Petroleum Products Export Terminals Company. This academic centre has plans to expand its graduate programmes to meet the needs of the marine and shipping industry for manpower.

5.4.8 University's international collaborations

PUT has signed agreements and memorandums of understanding with several international leading universities and institutes around the world to improve the quality of petroleum education in Iran. A list of the international universities and companies has been presented in the table 5-8.

Table 5-8: PUT international collaborations

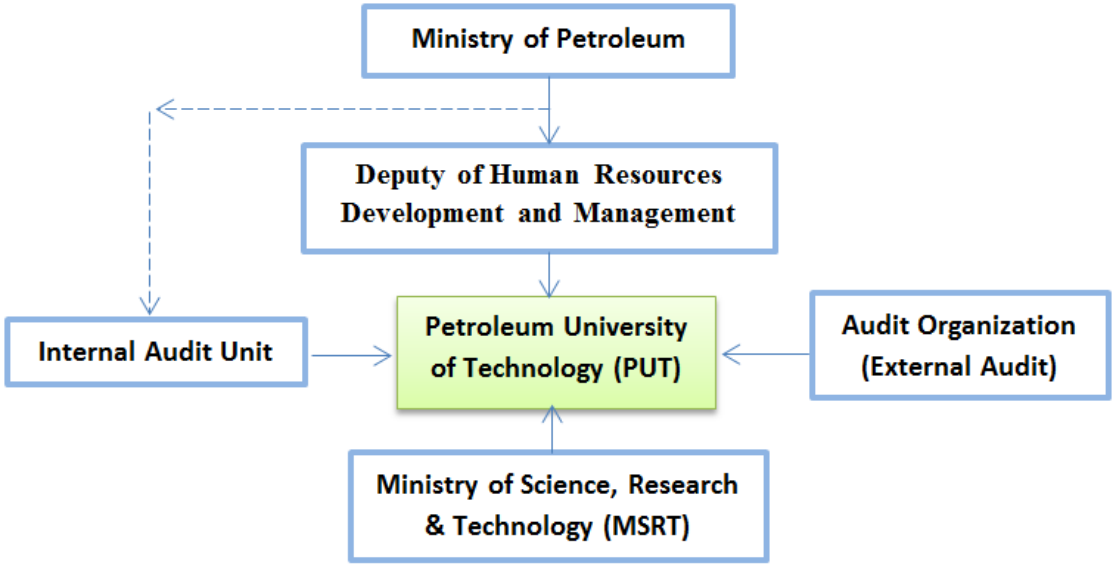
No.	Continent	Country	University	Company / Institute / Organisation
1	North America	USA	Texas at Austin	1. New Mexico Institute of Mining and Technology 2. The Society of Petroleum Engineers (SPE)
			Texas A&M	
			Kansas	
			Tulsa	
		CANADA	Calgary	1. Canadian Petroleum Institute 2. The Petroleum Recovery Institute
			Carlton	
			Montreal – HEC	
			Regina	
2	Australia	Australia	New South Wales	
			Curtin	
3	Europe	France	IFP	1. Total 2. Schlumberger 3. Shell 4. Down Hole Technology Limited 5. Saga Petroleum
		Netherlands	Delft University of Technology (TU Delft)	
		Norway	NTNU Trondheim	
4	Asia	China	China University of Petroleum	
5		Saudi Arabia	King Fahad	

Table 5-8 indicates that the University is internationally recognised with considerable connections and collaborations. This fact put on the University's reputation and credit.

5.4.9 University's surrounding environment

The diagram below (Figure 5-7) shows how University is surrounded and affected directly by the external bodies and stakeholders.

Figure 5-7: University's surrounding environment



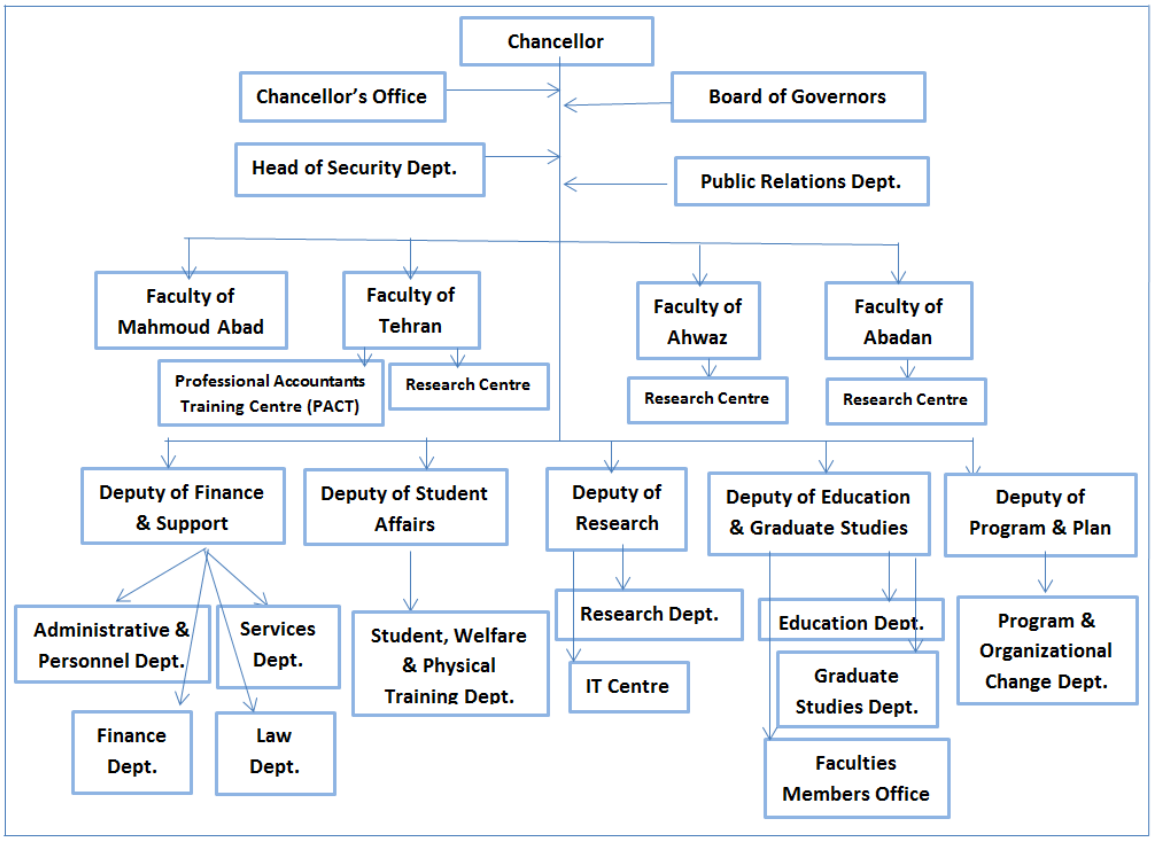
Source: Developed by the author

The above chart illustrates that the University is surrounded, influenced and governed by several stakeholders which the ministry of petroleum and MSRT are the main and most influential ones among all. Ministry of petroleum finances the University and MSRT sets out educational and academic rules and regulations.

5.4.10 University's structure

The structure of the University is outlined in Figure 5-8. As it shows, there are four faculties and five deputies operating within the University. It is managed and let by the chancellor.

Figure 5-8: Structure of the University



Source: Developed by the author from University's internal documents.

5.5 Summary

This chapter reviews backgrounds of the research context (Iran) and research site (the case university studied) of the study, to give an overall picture of both the research context and research site. In this regard, details about Iran (geography, history, population, economy, education system, etc.) as well as details about the University studied (including the University's background, context, history, structure, vision, mission, programmes, management, stakeholders, etc.) are reviewed in this chapter.

In the next three chapters in-depth analysis of the data will be carried out to understand and interpret the research phenomena and questions. In other words, the next three chapters will provide full detailed analysis of the collected data from different sources, mainly through interviews (see the research methodology chapter - data collection section for full details) using a set of coding procedures (open, axial and selective coding) in the Grounded Theory approach. The next chapter discusses the process of the first analytical step of the grounded theory methodology, namely open coding.

Chapter 6

Open Coding

6.1 Introduction

This is the first analysis chapter that serves to identify and introduce the research themes and the early categories (open categories), that were found to play an important role in the case university's overall performance. These categories were evolved from the data through application of a set of coding procedures in GT (Strauss and Corbin 1990, 1998). These categories were developed through open coding and the integration of early open concepts. They do not have a high level of abstraction, but serve the role of introducing some concepts that will later be refined and integrated into higher order categories.

Open coding represents the initial stage of grounded theory analysis. This is basically the first step of proposing the inducing of theory from data.

This chapter depicts the building blocks of a grounded theory of performance management in a case university in Iran. The focus lies explicitly on performance management practices. Other functional viewpoints are included where necessary. Furthermore, an overview of the generation of open categories will be provided before addressing each open category in turn.

According to (Strauss and Corbin, 1998), as mentioned in the previous chapter, the focal research themes should emerge from the field study. Section 6.2 determines the emergent research themes, while sections 6.3.1 to 6.3.17 provide details of the twenty-one open categories that were extracted from the data. The relationships between the various categories; which are the focus of axial and selective coding are presented in the subsequent chapters.

6.2 Emergent research themes

The general research problem was to explore the performance related practices and their link to the overall performance of a specific state affiliated university in Iran to develop a theory to explain and support the practices (Glaser and Strauss, 1967). The research aimed at exploring the phenomena from the perspectives of the participants. Therefore, the

preliminary stages of data collection and data analysis focused on identifying factors relevant to the areas of the research subject and significant to the participants.

Reflection on the data collection and analysis activities, and overview of all primary and secondary data, resulted in general understanding of the raised issues by the participants, and creating a guiding framework of the University's stakeholders and regulators relationships. The emerging themes helped the researcher on how to collect and analyse the subsequent data. The focal emerging themes which the current research focused on were as follows:

i. The University participants' understandings and perceptions on performance.
ii. Perceptions on the measurement, management and reporting of the performance
iii. The manner and extent of the use of KPIs, measures and metrics
iv. The University participants' perceptions of the role of accounting information in performance measurement and management
v. Perceptions on the role and influence of the University stakeholders and governing bodies
vi. Other factors influencing University.

It should be noted that the emerging research themes gradually become evident and clear as the ground theory data collection and analysis progress from the open coding to axial and selective coding, when it reaches to the point where a substantive theory evolves.

6.3 Open concepts and categories

According to Strauss and Corbin (1998), open categories are essentially a collection of open concepts stemmed from data which stand for a specific phenomenon. By providing comprehensive information regarding an emergent phenomenon, an open category describes "What is going on here?" (Strauss and Corbin, 1998, p. 114).

Open concepts involve labelling of social phenomena emerging from the data (Glaser, 2002). Open concepts were developed initially through line-by-line, and later paragraph-by paragraph analysis of the materials collected through mainly interviews, field notes, documentary and observational data. The scrutinised analysis was conducted at the early stages of the analysis of the data collection. The analysis was focused on exploring and understanding features, characteristics and dimensions of the phenomena relevant to the research subject from the respondents' perspectives and experience. According to Strauss

and Corbin (1998) the detailed line-by-line analysis should be conducted at the initial stages of the research to make sure that the analysis is driven by the data rather than preconceived ideas. Such analysis technique increases sensitivity to the data.

For each set of data the entire document was read first to get a general understanding of the determining issues. Furthermore, the entire data were reviewed several times to look for the emerging open concepts. They were also rigorously compared against each other to add validity and to discover the concepts as well. The generated open concepts were then analysed and those that related to a common theme (in terms of their commonalities and differences) were grouped together to form an open category (Strauss and Corbin, 1990). The quotes from different respondents have been used to support the issues from a diverse source. . At this stage, many tables and diagrams were also created to explore the data and capture the theoretical thoughts.

Emerging categories were labelled in accordance with Strauss and Corbin (1998, p. 114) where they mention: "The name chosen for a category usually is the one that seems the most logical descriptor for what is going on".

Lastly, the properties of a category are basically those important features of a particular phenomenon that emerge from data analysis (Strauss and Corbin, 1998). In fact, they are aimed at ensuring that phenomena observed are systematically captured and described adequately. In the case of properties related to a particular open category, the details were provided.

The next sections of this chapter (6.3.1 to 6.3.17) explain the seventeen open categories. At this stage, what follows are not theoretically related to each other since their relationships will be discussed in the next two chapters. Since the first emerging open category (Performancing) serves several issues related to the performance phenomenon, therefore the related subsections have been provided to present details. The aim is to make sure that phenomena observed are systematically captured and described adequately.

6.3.1 Performancing

Performancing refers to the mindsets of participants about performance management and performance measures. The main focus of this grounded theory study has been on performance and performance related practices (performance understanding,

conceptualisation, measurement, management, reporting, and other related contributors). In this section the main descriptions and practices associated with the concept of performance from the points of view of the individual University participants from different fields and expertise are discussed.

In total, twenty five main properties associated together to constitute the "performancing" open category. They were as follows: Performance evaluation (measurement), Appreciation the good job, Efficiency of performance, Effectiveness of operations, Bureaucratic management style, Self-monitoring by employees, Expectation on financial performance, Reward / Promotion system (lack of), Intrinsic Rewards, Foresight / wisdom, Discretionary practices, Approach, Individual and organisational discipline, Fairness of evaluation system and procedures, Incentive to employees, Reward (compensation system), Staff's self-development Assessment, Good performance, Performance related issues, Formal reports, Assumption on good management, Meeting educational quality standards, Mandatory practices, Education quality required, Quality assessment.

Most of the interviewees from different departments and disciplines mentioned that both financial and non-financial aspects should be considered in evaluating and measuring the University's performance. However the priority should be given to nonfinancial (educational and research) measures. One of the participants commented: "Performance measurement and measures must be understood and developed by the managers and those who are in charge. The current system has been focused on financial aspects of the performance. Here is an educational context and the goal is not profitability…I mean there should be a non-financial performance measurement system to consider other activities as well…" (Dean of a faculty).

However, an interviewee from the financial department was still not convinced, as he stated: "…Financial measures are more understandable. It does not matter which system or approach is used to measure performance, stakeholders and top management want to look at financial figures, i.e. financial reports…".

But the above two views on the proper shape of performance measure were different from one of directors, who said: "…We have a lot of activities going on, definitely, educational and research activities here are not measurable not only in financial forms, but also in non-financial forms. The quantity and quality of such actions, time spent, coordination, collaborations, consultancies, and so on. The challenge is how effective and productive

these activities are, and how they are converted into revenues…" (Director of graduate studies).

A tension was observed between staff's views, where a head of faculty commented: "…The University uses a combination of both financial and non-financial performance measures. For example, it measures the organisational values of the University, i.e. whether employees (both academic and non-academic) of the University observe values or not, through using a set of specific forms, techniques, and reports. Statistical reports are also used to measure quality, efficiency and effectiveness of lectures/courses via using "students surveys and questionnaires". Of course, such non-financial measures are not usually conveyed in financial reports…".

One of the vice-chancellors made it clear by saying that: "…We have to comply with the rules and controls applied by the petroleum ministry and MSRT. At the present, these are principally financial measures. Both ministries have however provided some non-financial measures as well. There have been some discussions occasionally in the University's board of governors meeting about the necessity of establishing performance measurement and management systems, but it got nowhere and was forgotten later on…". One of the faculty members repeated a similar statement: "…Performance measurement and management systems are both very important, but there is no basically such useful system…". Similarly, a senior staff at the finance department declared: "…Establishing such systems needs a huge amount of money. Although if the University really feels that such systems are very useful, it is possible to finance it. Thus, they [managers] don't see it necessary…".

Head of one of the research centres claimed: "…The University needs a new way of conceptualising performance in the University…They have to try to adopt a new systems, I mean accounting, performance measurement, etc. to be able to produce relevant and up to date information to push the University forward towards achieving its objectives and performance improvement of the research, academic and executive staff and the University as a whole.

In confirming the above claim, head of personnel department elaborated: "PUT managers' perceptions and attitudes of performance management [practices] are not congruent with the leading literature. They have to identify and work on the areas of congruence and dissonance between their current traditional practices and modern techniques towards performance improvement".

One of the main questions of this research was how performance measured, managed and reported. The head of administrative and personnel department explained the performance measurement (appraisal) system. There are two types of employees: Official regular staff and Contractual staff. The procedure of job performance evaluation by the University is as follows.

Official regular staff: These performance evaluations are done based on the petroleum ministry's rules and regulations. Though the vast majority of employees don't believe it would provide fair, timely and objective measurements of their job performance. The University conducts the formal systematic evaluation of all academic and non-academic official staff at the end of the fiscal year which is usually done during the first months of the following year. The head of department completes the performance review forms. He/she fills in a rating of each point and at the end signs the evaluation from.

Contractual staff: The second type evaluation is for contractual staff who are not in direct relationship with the University. Such staff are those who are doing almost the same tasks like formal staff, but are not direct formally employed petroleum ministry's employees, and as a result, the petroleum ministry's rules doesn't apply to them. Such staffs are employed usually for a period of 12 months (one year contract) by a recruiting company (third party) according to the university's request and suggestion. At the end of their contract, if the University still needs their service and in case of a pleasant performance, their contract would be renewed. But it is not compulsory and it gives both of them (contractual employee or the University) an opportunity to discuss so that areas of mutual concern can be addressed and the contract renewing feasibility is investigated. The other issue is that, if during the contract time, again if anything happens so that any of the two related parties comes to such conclusion that they cannot continue their cooperation any longer, they could easily end the contract. It means basically contractual staff should be more cautious regarding their performance. It means each contractual staff member receives a constant performance review during his or her contract term. Although such a prescribed structured performance measurement criteria for contractual staff does not exist in the University, but usually the general evaluation is based on performance in two broad categories: Professional responsibilities, and Organisational / behavioural responsibilities.

Within these two categories, the following areas are specifically assessed: 1) In the category of professional responsibility: Quality of work, and Effectiveness in workload management, and Professional development. 2) In the category of organisational responsibilities: Adherence to the department and University's overall policies, Adherence to the general job

duties, Adherence to the duties of a specific task, Handling of communication and social behaviour both with staff and students within the environment, Practice development.

One of the senior and experienced employees raised several concerns with the evaluation procedures. He elaborated: "…The University does not have a job description manual (both as a staff member, and for the organisational responsibilities and professional position held) which should be clearly elucidated, in writing) to give the new employee a copy of the job duties for the position the employee holds…New employees don't receive orientation. If it was the case, then the evaluation process could begin as the new employee orientation process starts. As a result, during the orientation, the new staff member is made aware of the University's policies and goals. The individual's job description and orientation policy would give both a mutual opportunity of understanding of job standards and expectations which should be reached…As the current comportment, departments' heads assess their contractual staff performance based on a mix of different unwritten criteria. Obviously, the employee's previous period performance is reviewed and kept in mind any unusual or abnormal issue, but basically there is no such a meeting so that the employee is given an opportunity to see the basis of assessment or reasons of the decision made, and also the chance to defend or comment on any area of the performance evaluation…In a systematic evaluation system, as the review progresses, both the department's head and the employee keep the notes with regard to the goals that are set and also the areas they work on. It helps them, compensate any deficiencies and make every attempt to work together to effect required change…It will result in reaching an understanding concerning the staff member's past performance and drawing up and discussing the expected future performance and expectations with the employee…Salary adjustments are not necessarily made at the time of the performance evaluation…If you conduct the evaluation as objectively as possible, your staff will appreciate the communication and should strive harder to match expectations…Salary adjustments are made at the time of signing the new contract, usually based on the new relevant governmental rules and regulations, the employee's degree and the extent of expertise and other general issues (minimum wage, inflation rate, etc.) and not necessarily based on the performance evaluation. It seems if the University conducts the evaluation more objectively, the staff will appreciate the communication and try harder to meet expectations…".

With regard to the above quotes and comments, it became clear that:

1) The university academics and executives needed new ways of conceptualising, understanding and measuring performance in the university.

2) Although employees and practitioners understood the importance of performance measurement (system), but most of them were not satisfied with the existing format. Staff at different locations and levels and with different contracts, job positions and personalities responded differently to this question.

3) It was acknowledged that traditional performance measurement processes were executed at different levels of University for internal and external purposes. However, many respondents (academic and non-academic) considered such measurements to be inadequate, ineffective and non-constructive that was beneficial to very few employees. In other words, they were dissatisfied with the existing format.

4) Performance was measured at the University by using more “value-based measurement” approaches, rather than “scorecard type models” which combine financial and non-financial measures to adequately measure the performance. However, a determination seemed required to establish such models and credible cause-effect relationships as part of a process of performance measurement improvement process.

5) At the university level, due to the lack of appropriate performance indicators/measures, performance measurement was dominated by normative academic performances. There were some general performance indicators developed by MSRT and are applicable to governmental universities, but they could not be used in assessing the strategy of the University and its strategic plan. On the other hand, the lack of a structured performance measurement system focusing on the strategy of the University, made it difficult to measure the achievement of the strategic goals.

6) The University’s performance was basically the aggregation of performance achieved by academic programmes and other scattered research and other activities of faculties and departments within the university. The problem was that, basically, these activities had not clear performance measures and targets that were in line with the strategic goals of the university.

7) The complex and holistic phenomenon performance measurement and management practices were not completely conceived and understood among the University authorities as well as stakeholders. Although, they have attempted every now and again to monitor and measure their performance and used several good (under-developed or not sufficiently deployed) practices, but failed to catch up with opportunities and establish structured strategies, planning and performance appraisal systems.

8) Using the traditional techniques to measure and manage employees' performance, the University was experiencing serious challenges exacerbated by the staff who received low appraisals due to their poor performance; which they did not see it fair.

9) Performance was measured at two levels: at macro level (the University's performance as organisational performance) which comprises of educational and research perspectives, and at micro level (individual employee as performance measurement (appraisal)) which includes academic (teaching or lecturing) and non-academic (executive or supportive) staff.

6.3.2 Accounting system

The thirteen main properties which formed this open category are: Financial internal control environment, Benefiting from accrual accounting system, Need for modern accounting system, Short-term (annual) funding, Restricted funding, Spending review processes, Keeping records of tangible assets, Use of indicators (financial and non-financial), Research projects income generated, Integrity in financial operations, IT skills required in job, New accounting system, Lack of enough staff. These are basically indicating the reality of the University's accounting system.

This category provides an overview of the University's system of accounting and its relationship to the performance measurement and management practices, as well as its role in preparing and reporting financial and non-financial information to the related parties.

The accounting system of an organisation generally produces different types of information that are used, such as qualitative, quantitative, and more precisely, financial and non-financial information, and information that relates to the past or to the future.

Internal and external stakeholders use the different types of accounting information, with a focus on quantitative and financial reports. However, it is not possible for non-accountants to easily understand and analyse such condensed and complicated information, as stated in the following quote: "...nobody within the system analyses all those numbers, even if they want, they cannot because the numbers are aggregated by the accounting system and put together based on the accounting complicated formula and standards…There always an expert is needed to interpret them…" (Head of accounting department of a faculty).

Head of audit department commented: "…the accounting system and reporting practices in fact represent the University's obligation to internally and externally report on its activities, performance against strategic objectives, and resultant financial condition to its various stakeholders, principally through the University's Annual Report…here at the internal audit department, we are basically concerned with internal control environment which essentially focuses on all aspects of the University's collection and consumption of financial resources (its sources and uses of funds) which is largely provided by the ministry of petroleum. Our responsibility is to detect shortcomings and assure the financial health and institutional efficacy of the University so that it can operate according to the petroleum ministry as well as general governmental rules and regulations.

A chief accountant working at the headquarters declared: "…The University is required to prepare and report is financial statements on an annual basis. However, the annual communication of the University's financial statements seems is not in relation to the achievement of its strategic objectives, but as a mean by which the University establishes a basis for trust and legitimacy between itself and the external stakeholders…".

To draw these different properties together, it can be stated that the University's accounting system and its generated information (interim and final financial statements, budget reports, internal audit reports, and other types of reports, notes and statements), external (third parties') reports (external audit reports, inspection organisation reports) are used by both the University (for internal and external using purposes) and other external parties (mainly petroleum ministry and MSRT) to evaluate its performance. However, such performance assessment is mostly based on financial aspects of performance and through using basic tools (such as budgeting) and not a developed system (such as balanced scorecard). Furthermore, the University's aims of using accounting produced information are to become aware of its resources, to discharge its accountability for the resources it receive and consequently gain legitimacy in the eyes of stakeholders. It seems the accounting information produced was rarely used for strategic decisions by both the University and stakeholders.

6.3.3 Governance

All the interviewees associated governance with the issue of involvement of different governors, boards (trustees and governors) and individuals in the University activities. They were particularly concerned with the manner and extent of the involvement. They felt that the

main issue in governance was the roles played by the stakeholders and governing bodies, particularly their ability to influence activities. Such claim is confirmed by the head of chancellor's office where he mentions: "…The role of the board of governors is a central issue…In the current position we have to make a balance between conformance and performance. In fact, our primarily issue is to ensure conformance by the University (conformance based operation). Such duality of tasks has downgraded the role of the board to managing the current programmes, and providing accountability, monitoring and supervising the activities…".

In another statement chancellor stated: "…If we had enough autonomy, our role would be primarily performance related and getting involved in autonomous strategy setting, policy making and critical decision making to drive the University forward and improve activities…"..

The governance of the University is based on three pillars: 1) the Board of Trustees; 2) the Board of Governors, and 3) the University's chancellor. The board of trustees is comprised of a several external members, while the board of governors' members are the University's academic members who hold high and strategic positions within the University (deans of faculties, programmes directors and vice chancellors). Chancellor is appointed by the minister of science, research and technology upon the proposal made by the petroleum minister. The next three subsections describe the University's governance system.

6.3.3.1 University's Board of Trustees

The University's Board of Trustees is the highest regulating and ultimate key policy-making body of the University which approves University's reports, budget and financial statements, reviews other external reports regarding the university, and sets out strategies of the University. Petroleum minister (as head of the board), University's chancellor (as the board's secretary), minister of the Science, Research and Technology (member), deputy petroleum minister in Human Resources Development and Management (HRD&M), head of the Research Institute of Petroleum Industry (RIPI), managing director of the National Iranian Oil Company (NIOC), managing director of the National Iranian Petrochemical Company (NIPC), managing director of the National Iranian Gas Company (NIGC). It should be noted that the managing directors of the mentioned companies are appointed by the minister of the Science, Research and Technology for a maximum period of four years. The board usually holds at least one meeting per year to discuss and make decision about the university issues. The trustees can delegate certain responsibilities and powers to the "Board of Governors" to facilitate the governance practice.

6.3.3.2 University's Board of Governors

The Board of Governors comprises the University's chancellor, secretary of the board (which should be an academic member) and all the University's vice-chancellors (vice chancellor of education and graduate studies, vice-chancellor of finance and support, vice-chancellor of research, vice-chancellor of student affairs, and vice-chancellor of programme and plan), and heads of faculties (faculty of Ahwaz, Faculty of Abadan, Faculty of Tehran. And faculty of Mahmoud Abad). Chancellor is the head of the board. In general the board of governors is in charge of making democratic group decisions for the purpose of controlling, directing and managing the critical, unexpected and challenging issues happen to the University. The board of governors consider those certain cases which are beyond the chancellor's authorities and require the governors' approval. Decisions are made based on a unanimous vote of the members. The board of governors usually hold meetings twice a month when there are an adequate number of issues raised and requested by the board's members that need to be discussed and reviewed and approved in the meeting. Some certain of the board of governors' very high sensitive decisions should be approved by the board of trustees to be able to be executed.

6.3.3.3 University's Chancellor

The chancellor is the chief administrative officer of the university. He is in charge and responsible of directing and managing the University according to the rules and policies established by the boards of trustee and governors. Ha has also the power to delegate some of his authorities and responsibilities to his vice-chancellors.

The University's chancellor is chosen by the petroleum minister and suggested to the minister of science, research and technology for his consideration and confirmation. This is because both bodies have direct interests and common issues of concern in making sure that the candidate is a suitable and competent person who meets their all requirements. If confirmed, he would then be appointed formally by the petroleum minister. The potential chancellor can be selected from academics inside or outside the petroleum ministry and/or University.

The chancellor is the highest executive position within the university that is officially responsible for the determination, leadership, management, executing, controlling and administrating all the general university affairs.

It should also be added that the chancellor, as the principal administrative officer, holds by legislation the final responsibility to all the internal and external stakeholders for the University's al academic and non-academic operations and performance. The chancellor should be basically somebody who actively and passionately addresses and represents the concerns and expectations of the key University governing bodies and stakeholders.

6.3.4 Stakeholders' expectations

This category was created by interrelating the following fourteen constituting elements: "Enforcement of legal rules, Change resistance, Personal relationships in negotiations, Stakeholders requirements, Power struggle in relationships, Requirements to report to stakeholders, Financer as key stakeholder, Higher education as key stakeholder, Stakeholders conflict of interests, Physical Movement (by force), Meeting the established rules and regulations, Necessity to comply with external bodies criteria set, Resource dependency, and Ability to make independent decisions.

Many participants talked of "stakeholder's expectations" which were mainly referred to the petroleum ministry and MSRT. In fact, they are the main external stakeholders of the University representing the "direct external environment" of the University. Ministry of petroleum finances the University and MSRT sets out educational and academic rules and regulations. In other words, the university's direct external environment is made up of two components: 1) Being a University, it is affected by MSRT, and 2) Being an affiliated state University it is affected by the ministry of petroleum. These two powerful bodies have significant influence over the University.

Constant discussions from participants about the "stakeholder's expectations" gave hints on the importance of this issue to get a better and more in-depth understanding of what was going on in the context.

"Our full affiliation to the ministry of petroleum, I mean structurally, financially, operationally, and administratively which comes from the mission expected from us, enforces the University to operate according to the ministry's requirements…I mean we have to conform to their expectations…we are required to obey the academic and educational rules set by the MSRT as well" (Chancellor).

The above expression implied a framework of an expected exigent conformance behaviour expected from the University. It indicated how the stakeholders and regulators triangular relationships shaped the University's conforming practices.

However, the deputy head of programme and plan criticised this situation and complained: "…the University's activities have been majoring on addressing its stakeholders' concerns, requirements and expectations…these issues have been taking the University away from concentrating on developing its own mission and strategy. In other words, the University has not been successful in making a balance between the stakeholders' requirements and its own mission…".

The issue of "stakeholder's expectations" has been adequately discussed earlier in this chapter and previous chapters as well.

6.3.5 Budgeting practices

This category is a description of the practices and processes related to budget preparation, implementation and monitoring.

The budgeting process begins with the finance department of faculties upon the request from the headquarters' finance department. The headquarters is responsible for issuing guidelines on the preparation of budgets, covering issues such as University's policies and priorities, format, and budget ceilings on certain activities.

In the next step, finance department of each faculty asks all departments and deputies to submit their needs and requirements for the following year. When all the required information received, the faculty's finance department compiles them all together, prepares the whole budget for the faculty and submits it to the headquarters.

At the headquarters annual plan and budget for the University is prepared, taking into consideration the priorities as well as guidelines from the petroleum ministry. Overall annual plan and budget is discussed by the University's vice chancellor for finance and general budget unit of the ministry. The budget proposal from the University for the various activities (personnel, education, research, equipment, development, etc.) is discussed in detail at a joint meeting. The two relevant parties discuss overall annual plan and budget for deliberation and approval. The main issues with respect to the budget of the University are

to ensure that it complies with the national and ministry priorities and policies, figures are realistic and the proposal budget is compared with the previous year's budget to analyse variances. Petroleum ministry usually cuts the requested budget down mainly through the operating costs.

The interviewed University executives at lower levels of management observed that the transformation to a bottom-up participatory planning and budgeting approached had hardly been achieved in the University. However, in practice a combination of top down and bottom-up planning and budgeting approaches are used.

Some participants raised the fact that the headquarters usually did not notice to their budget submission, or in an optimistic manner, amended it without noticing the originating faculties. Head of finance department of a faculty mentioned: "This cut back is done despite the requests being seen as necessary and genuine by the originating departments themselves...the final budget is therefore seen as not reflecting reality and would soon be overtaken by the macroeconomic fundamentals such as inflation and a weak currency…."

Head of budgeting department mentioned: "…ministry of petroleum reviews budgeting as a mechanism for monitoring University's financial discipline. The ministry also uses budget information to evaluate overall performance of the University… The audited annual financial reports that are submitted by the University to the board of trustees comprise budget and actual performance information for the preceding two years. In some cases the University sets targets using budgeting practices to improve its performance, particularly in financial areas and cost reduction practise…The external auditors use budget information to examine financial discipline of the University… A few number of audit queries on the financial reports of the University were related to overspending on the budget allocations or logrolling among different activities…".

Overall, participants viewed budgeting as a very important accounting practice in their accounting system. Furthermore, external auditors and the supreme audit court, who are not involved in the budgeting process, utilise budgeting information extensively.

6.3.6 Organisational assurance

Participants referred "organisational assurance" here to the overall University's policies and activities (in various regards) that guarantee the health, quality and commitment to the both internal and stakeholders. Eight main properties were compiled together to create the

“Organisational assurance”. They were: Support from top management, Agreement among senior management on operations, Commitment from top managers, Organisational (vs. personal) commitment, Systematic management attitude, Meeting obligations, Organisational health, Operating within limits.
Head of law department expressed: “A healthy, properly established and supportive environment not only will encourage and provide employees throughout the organisation with clear goals and objectives and their tasks of how they relate to the overall advancement of the organisation, but it also practically involve them with the activities and provide the conditions for their participation as a loyal support to the system…”.

Deputy head of education commented: “…There is now a significant lack of a well-defined system or process within the University so that ensure of a continuous improvement in the University’s education performance, As a part of performance improvement scheme, the University requires to launch a Quality Assurance Unit so that the current teacher-centred education system is changed into a student-centred education system. By introducing and implementing such system, the academia will find out their teaching performance will be monitored and appraised severely by the University and students…”

In summary, participants expected the University treated them more supportive and encouraging rather than discouraging. Such concerns could all be summarised in one term; “organisational assurance”. This category was considered as an important element in addressing the University’s commitment to its different stakeholders (including employees, students and external influencing parties).

6.3.7 Strategising (strategic planning)

This category captured nineteen main properties. They were: Alignment of departments, Goal Divergence, Logrolling between departments, Mutual Cooperation and collaboration, Poor communication, Organisation as a unit, Open sharing and communication, Effective Cooperation, coordination and communication, Logical decision making, Effective communication of strategy, Strategy on paper (in theory), Over-night made decisions, Systematic approach vs. discretionary (personalized decisions), University policy , Lack of Long term planning, Comprehensive planning, Effective communication of strategy, Team working, Communications between sections.

Strategising refers to the mindsets of participants with respect to both strategy and strategic management and to the associated practices. On establishing strategy, Deputy head of programme and plan explained: "…The University has established its programme and plan deputy from 2010. In this regard a five year strategic plan has been provided for the university in 2011. The plan has also been discussed and approved by the board of governors. But unfortunately there were not such a serious attitude, executive commitment and support in practice towards its implementation and a continuous monitoring and progress measurement against the established goals in the plan…to address this issue, senior authorities need to report their practical strategies and actions they take. Furthermore, faculties, departments and divisions should be informed, trained and held accountable…I believe that that the success of any scheme depends on how it is integrated into the University at a strategic level and its effective dialogue between the all concerned bodies with the process at operational level….".

He further continued: "…The other issue is the lack of "strategic alignment" among the different divisions within the University. By "strategic alignment" I mean the mission, strategy and performance measurement elements in different faculties and deputies which should be all aligned with each other and in the line of the University's overall direction. Misalignment has been causing inefficiency and ineffectiveness in using University's resources. It should be mentioned every division uses University's resources and as such it is an important point which requires special attention. It also demonstrates the importance and necessity of adopting a performance management system, such as BSc, in the University, which helps it align activities in the same direction and improve its performance…".

A participant highlighted the relationship between the University's performance measurement and strategy by saying: "…the University does have a strategy in theory (on paper) and senior managers talk every now and again of having a long term strategy, however it is not continuous and committed…besides, although the University measures its performance in some ways, however, it is not a serious purpose to see how far the University has reached against its goals…".

One of the other University's important weaknesses was the lack of congruence and alignment between the University and its faculties, institutes, research centres, schools and departments. In better words, different faculties and departments followed their own mission, strategy and performance measurement practices which were not aligned with the University's overall vision, mission and policy. To overcome this obstacle, one of the participants suggested: "…The University has to design and implement a comprehensive

performance management system…Balanced Scorecard seems to be an adequate solution….By adopting the BSC and aligning all the sections, the University will be performing more efficiently and effectively towards its goal and objectives….” (Deputy head of programme and plan).

Vice chancellor for finance stated: “…Although departments and faculties are the forefront of the frontier of implementing the University’s mission to achieve its vision, but it is perceived that the adopted strategy at the top stakeholders and authorities level, is not aligned with the faculties and departmental levels…unfortunately such conflict of interests and disharmony have reduced the efficiency and effectiveness of the operations and have left negative impacts on the University’s performance…”.

Another participant commented: “…The data produced by accounting system are rarely used to set up the strategy (or to make the strategic decisions)…I mean there is a weak relationship between accounting and strategy in our University…it makes the university suffer from not having a stable and committed strategy…I mean inconsistency in actions..”.

In total, it became clear that the University’s strategy was not well developed and practiced. This concern seemed to have significant impacts on the University’s consistency and performance.

6.3.8 Human resources (manpower)

This property refers to the employees’ related issues. The main constituting properties included: Expertise, Role of employees, Human resources (poor versus rich), Staff training and morale, Uneducated employees, Innovativity, Shortage of highly skilled personnel, Contractual (versus permanent) staffs, Creativity, Lateral thinking, Conflicts, High turnover of people, Missing key staffs, Rapid change in top level executive academics.

Head of personnel department recognises the importance of human resources when he explained: “…manpower is a very important issue which often is forgotten within the organisations…I mean this issue is not the case only in the University…human factor lays at the heart of the issue of performance…human elements play a great role in finding and using the technical or structural solutions…human issues is a “make or break” factor in the success of an organisation. This is because of that all operations are managed by employees who are committed to achieve the objectives of the organisation and, in

exchange, it is vital to consider their attributes and expectations which play a significant role in their motivation and performance…I strongly believe that there is no chance for the success of an organisation without proper and skilled employees…".

Regarding the University he further continues: "…Well, we are now in shortage of skilled people but we cannot employ those who we need [because of the two ministries' limitations and regulations]…academic staff should be employed based on both petroleum ministry and MSRT's rules and regulations, non-academic permanent staff can work at the University only through the petroleum ministry's employment...even in recruiting contractual personnel we are facing serious challenges and barriers…on top of that we could hardly keep our key personnel…the payment as well as the environment is not satisfactory…"

Deputy head of program and plan has also confessed such direct intervening and limiting situation: "…there is a serious lack of authority of recruiting suitable personnel (academic and non-academic) as they were subject to the rules and limitations imposed by the financing body (petroleum ministry, as well as, the lack of ability to sack inefficient long term (permanent) contract employees….".

With regard to the above, frequent changes in key employees and forthcoming challenging regarding keeping current as well as employing new educated employees had created serious consistency challenges regarding the University's actions.

6.3.9 Surrounding environment

The properties (open concepts) of this open category which emerged from the data and helped to understand the actual situation were as follows: Uncertainty (internal-external-environmental), Instability imposed from the critical environment, High volatile environment, Elections problems raised, Chaos raised from inconsistency, Confusions due to rapidly changing rules, No improvement in situation, Rapidly changing environment, Fluctuations, Getting worse, Not efficient economy, Political environment, Environmental and social concerns, National level planning situation, Non-financial disfunctionality, Need for consistency, Current challenging situation, Country's culture, Regional and International threats, Demand from outside the country, Increased financial pressures.

This category captured the views held by participants on how the political, social, cultural and economic factors were impacting the university.

One of the vice chancellors was of the view that the problems of the University could not be resolved in isolation from the problems of the country: "…So until the country returns to the normal situation there can be no magic solution to the University's challenges".

Another interviewee was concerned that almost the society had become so politicised where even the most basic of issues were linked to, and looked at from the perspective of politics. Political polarisation was felt, not just in the society at large but within the University as many participants cited that decisions made based on political considerations. It was evident in most of the interviews and also observations made during meetings attended. The political environment was seen influencing the University to behave with discretion and not make any challenging decision which might raise any potential problem. An example was that the headquarters of the University which was located in the capital, Tehran, was suddenly transferred to a small city, Abadan, in 2008 only because of the order of the president and/or petroleum minister. Another example was the presidential election crisis of 2009 which lasted for several months and had a great impact on the University. The results of such political issues have been continuous fluctuations resulting in significant and complicated uncertainties.

The national economy was considered as an important factor. The main issue in this regard was the increasing inflation and unstable economic situation which created serious challenges for the University. The head of budgeting department narrated that they had prepared the annual budget for the University a year ago and the prices had increased by at least fourty percent in the current year.

Other environmental factors and concerns at the national and international levels were somehow raised and discussed here and there and covered general environmental conditions including technical and technological issues, governmental rules and regulations, and cultural subjects.

With regard to the above, the influencial environmental factors (political, social, economic and technological) were among other major issues emerging out of the data analysis at the open coding phase. That is why it is named "surrounding environment".

6.3.10 Preference

This category was made up of five main properties: Exploitation for personal gain, Employee (work) engagement, Personal priorities (vs. institutional), Organisational priorities, and Form over substance.

Participants referred to some situations which they felt that personal priorities were preferred to the University's priorities. A participant declared that there was no justice in the systems and as a result he wouldn't care that much about the University affairs. Another participant referred to top managers who always put their own exploitations at first.

As an example, an employee mentioned that she was employed with one of her colleagues at the same time, but he was promoted constantly, but she was not. In addition, his salary was two times more than hers. This was as indication of form over substance which she mentioned had negatively affected her performance. In total, individual preference was seen as a factor creating challenges within the University.

It became evident that issues related to "preference" were one of the concerns of the personnel which can raise challenges and have considerable effects on both individuals and University's performance.

6.3.11 Accountability

The main properties for this open category were: Use of financial statements for reporting, Defending external audit report in general assembly, Internal audit unit, Responses to tax and insurance enquiries, Supreme audit court, MSRT.

In general, participants described accountability in terms of a duty to discharge their responsibilities to the stakeholders (especially to the petroleum ministry) through the publication of annual financial and other report as well as through provision of information required by other beneficent parties.

External audit reports as well as reports of the supreme audit court were regarded as the most important accountability as well as compliance tools. At the annual general meetings (AGMs) of the University's board of trustees (including ministers of MSRT and petroleum ministry or their representatives and the University's chancellor and head of deputy of finance and support), the audited financial statements along with the related audit report are

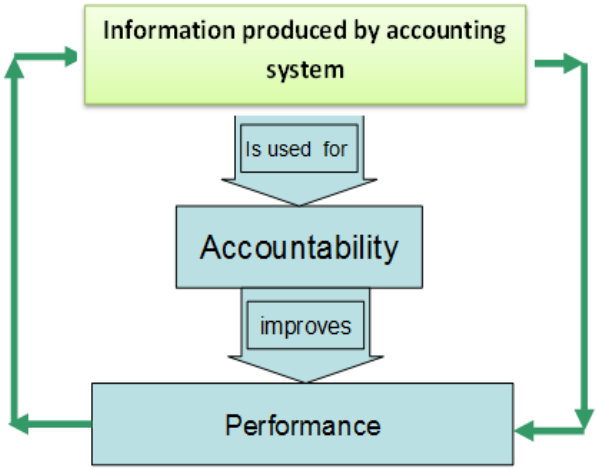
examined. They are actually considered as means to discharge accountabilities to the multiple stakeholders and legitimise the University's performance.

Furthermore, participants felt that budgeting was the most important accounting practice for accountability. They considered it as a sign of financial discipline which would leave a positive perception towards the university.

A participant associated accountability to performance by saying that: "…information produced by our accounting system is used for accountability and accountability improves performance…and this cycle goes round and round" (Deputy head of student affairs).

The chart below (Figure 6-1) illustrates this quote.

Figure 6-1: Relationship between accountability and performance



Accountability was considered as one of the main concerns of both the University and its stakeholders, particularly petroleum ministry. It was also strongly associated with the University's accounting system and performance management.

6.3.12 Competitiveness

Properties portrayed this open category were: Compete to be survive (vs. champion), The way resources are used, Optimization of actions, Competitiveness (lack of), Low Productivity due to no competition, Academic attitude, External barriers , Other universities, Competition

(nationally/ internationally), Globalisation / internationalisation, Government support and investment in research.

Participants were of the view of lack of competition in the University. They mentioned that since the University was fully funded by the petroleum ministry, thus they didn't need to make a lot of efforts to provide resources for the University. Furthermore, they didn't feel to compete for getting research projects from industry. They could easily utilise from the unique relationship between the University and the oil industry sector. They were always given priority in receiving projects. In terms of educational competitiveness, the University's reputation and prestige put it at a higher level than its rivals.

In total, due to the lack of competitive environment (nationally and internationally) as well as other barriers associated with this issue, it was perceived to be more negative than positive.

6.3.13 Values

This category encompasses a set of personal characteristics. In fact, participants pointed out to some individual ethical codes and principles related to performance and commitment.

Major properties (open concepts) of "Values" which represented signs of "commitment" included: Individual (vs. organisational) values, Ethics, Superiority, Ethical responsibilities, Expectation on equal rights, Assumption on honesty, Bored / fed up, Trust in each other, Value of training, Hypocrisy (two face people), Having sincerity / good faith, Religious related Individual beliefs.

Head of security department related employees' participation to performance when mentioned: "I think good performance is all about employees' participation…it works like a synergy as pulls everyone in the same direction which ultimately enhances efficiency and effectiveness …employees' participation plays a great role in improving the organisational performance within all organisations with different lines of missions, goals and activities".

He further perceived a high importance for trust: "…however, gaining employees' participation is only possible by firstly gaining their trust…thus, building trust in any organisation is an essential precondition for operating efficiently. It is the basis of strong relationships and will increase the mutuality, efficiency and productivity…since it is crucial to the success of any organisation to reach its objectives, so it is worth of allocating a lot of

time, efforts and resources to build or rebuild the employees trust within the organisation. In case of the lack or poor trust, there would be no good working relationship and hence cooperation will end up under formal tough procedures in a not healthy climate which finally result in the failure of the system…".

Regarding the University he said: "…as far as it is considered as individual values we are happy that we have a good environment of well-behaved people…the levels of ethics, honesty, good faith, etc. is high…but in terms of organisational values …emm… you know there are considerations [here the participant hesitated to clearly elaborate on it]…"

In total, participants were unanimous in their opinions that if the system (University) uses such generally accepted individual codes, its performance will be improved significantly. They mentioned it would also increase values, improve their satisfaction, commitment, quality of work, and their ability to meet stakeholders expectations.

6.3.14 Organisation structure

This category is principally associated with the administrative structure of the University. Main properties of this open category were summarised into the following eight open concepts: Hierarchical structure of the organisation (vs. matrix–networking), Teaching and research funding structure, Bureaucracy and too much paperwork, Troubleshooting, Autonomy (lack of), Independence (lack of), Frustrating paperwork system, and Limitations.

Organisation structure is generally considered the anatomy of the organisation, providing a foundation within which the organisation functions. It affects the behaviour of organisation members. Also behaviour in organisations is influenced by the organising structure.

The participants related "Organisation structure" to the way they perceived the existing overall administrative structure, current practices, perceived expectations of the structure, and regulations and policies of the University.

The University structure is considered as an internal environment within which the University operates. Apparently the board of governors, as the top level of administrative structure of the University, is in charge of administrative and operating affairs.

One of the members of the board of governors indicated: "I personally think that the University doesn't have a good and appropriate structure of administration... It does not start from the bottom…The structure does not link personnel at different levels…it's like some sort of hierarchical structure rather than a networking environment… in my view the main issues in administration of the University are lack of autonomy and authority…with frustrating paper work and time consuming processes nowadays things do not work like that… the administrative structure of the University depends much on resources from the ministry of petroleum and thus has been affected greatly by it… current rules restrict how we use the resources provided…the University has no autonomy…we have no authority to perform our roles…it is as if we are here to implement directives from the top…the whole system is about to perform in line with the stakeholders…we require more flexibility and autonomy in practice…the University's structure should go through fundamental changes…".

The above comments made it clear that the existing University structure was not supporting effective and efficient performance.

6.3.15 Organisation's culture

Main properties shaped this category included: Cultural barriers, Differences in people (cultural background), Cultural divergence (across faculties–cities), Team working difficulties, Lack of knowledge, Tribal implications and arguments, Refusing new systems by old staffs.

Deputy head of student affairs mentioned: "…well, it's clear that organisations are built on a foundation of shared values and assumptions which we name it organisational culture... in my idea a good culture plays a very important role in improving performance… Similar organisations operating in different cultural environments may well have different outcomes…with a good organisational culture even without a structured system or strategy the organisation can still perform well…but having good systems without culture it won't be successful…if I have pick between the two [referring to system or culture] I would go for culture…"

The above expression reflected on the importance of organisational culture. He further continued: "…we have four faculties in four different parts of the country with totally different cultures…also students from all over the country…it has been problematic at some points…I mean some tribal arguments or…, but overally not a big issue… we are all here to work for

the petroleum ministry…we should focus on providing and delivering good service for the ministry…".

It was considered that there were both positive and negative cultures within different parts of the University, as well as cultures within cultures. It was also sensed that the University's culture could potentially affect its performance. The overall culture of the University was concerned about addressing the stakeholders' concerns.

6.3.16 Technical and technological

The "Technical and Technological" category relates to the internet and IT facilities and infrastructure. It represents the motive, benefit and challenges the University received in this field.

In this category ten concepts were derived: Appropriate IT facilities, Effective use of Technology, Infrastructure capacity, Internet usage across the university, Internet coverage, Physical resources, Caring for the website, Maintenance and continuous upgrade of IT tools, Using up-to-date hardware and software, and Online information.

Head of IT department explained: "most of the University's operations are done through IT…we try to keep up with the University's increasing reliance on IT…on the other hand we have to update our technology as well…this is currently very challenging…they are also expensive and we don't have enough budget and sometimes we need to negotiate directly with the chancellor…I mean there is not a specific plan for IT development…IT is a sensitive issue which should be noticed…I have explained it to the authorities, but unfortunately no results…we try to make a balance between different departments and faculties to have a fair access to IT facilities …". This represented that the University acknowledges only basic uses of IT for daily operations (using web, email, students registration, etc.), rather than as a strategic tool to facilitate the administrative and educational process, development or competitive superiority (e.g. shaping the image of university), with no strategic planning or consistency in this area. Head of IT department of one of the faculties mentioned: "there is no serious growing attitude or competition with other universities at the moment, but if we want to grow or compete in future, with such insufficient IT resources it will be certainly impossible…IT can help the University in many regards; it can increase efficiency and effectiveness, can delete many unnecessary paperwork, can reduce costs, etc…unfortunately such importance is easily ignored…".

The above expressions implied that IT facilities in some ways affected the University's performance. They could also be used to maintain superiority and competitiveness and to optimize performance. However it seemed there was not such a consistent determination and investment in IT infrastructure at the University.

6.3.17 Motivation

The main open concepts associated to build this category were: Motivation (lack of), Routines, Low level salaries, Treating all employees equally (fairly the same), Self-consideration, Motivation (self-motivation-lack of motivation), Enthusiasm and contentment (lack of), Educational collaboration with international universities, Human resource performance measurement, and Job satisfaction.

Employees at the University were not well motivated to fulfil their responsibilities, mostly due to not sufficient salary and work environment. Asking employees for their impressions of the organisation often captures the essence of motivation. All of the executive staffs who were interviewed stated that they are being inadequately compensated for their work for the University. They were also unhappy with their work contracts.

A senior employee at the research deputy commented: "even if we make an outstanding contribution to the University and always put the University's works and tasks at the heart of our priorities, nobody would appreciate or care about it….This comment was also confirmed by another staff at the education deputy where she mentioned: "… the workload is incredibly high here with too much stuff accumulated from previous years and with no assistance … however, I have rarely seen a manager to pay attention to our needs…I've lost my motivation and dedication to my work…".

Besides that, the head of payroll department elaborated: "I've got very good ideas, both for the finance department and the headquarters, I've already mooted some of them, but it seems they [referring to managers and higher authorities within the University, or the system as a whole] do not listen to our ideas and do not include our perspective…in my opinion they should always respect, value and appreciate the employees voice, which is something they should never take for granted".

Head of personnel department emphasised that "I agree that staff are dissatisfied with what they receive…the system should encourage not discourage performance by employees of

the University…but this is the system and we can do almost nothing as financial resources are very limited… there are also serious limits imposed by the petroleum ministry…".

6.4 Summary

This chapter has identified and explained the research themes that emerged from the data collection and the data analysis, which instructed the focus of this study. The emergent themes were concisely delineated as they gradually become evident, as the grounded theory analysis moves from open coding to the selective coding; the point that substantive grounded theory would emerge.

However, the greater part of the chapter has dealt with the presentation of the open coding, which is the first stage of grounded theory analysis, and its outcome; open categories. In the open coding process, the open concepts were connected to form open categories. Open categories describe issues, concerns, and matters that emerge as significant to the participants in the subject of study (Strauss and Corbin, 1998). Thus, the interpretive analytical process in this research has involved identifying, examining, naming and developing concepts and categories that were significant to the participants (Glaser and Strauss, 1967). These categories are the building blocks of the evolving theory.

In total, seventeen open categories were developed. The emergent open categories are: 1. Evaluation policy (Performancing), 2. Accounting system, 3. Governance, 4. Stakeholders' expectations, 5. Budgeting practices, 6. Organisational assurance, 7. Strategic planning (Strategising), 8. Manpower (Human resources), 9. Surrounding environment, 10. Preference, 11. Accountability, 12. Competitiveness, 13. Values, 14. Organisation structure, 15. Organisation's culture, 16. Technical and Technological, and 17. Motivation. These open categories were discussed in accordance with the emerging themes.

A list of the open categories and their related open concepts (which have formed each of the open categories) have been presented in Appendix C. The relationships between various categories are the focus of axial and selective coding which will be fully covered in chapters 7 and 8.

Chapter 7

Axial Coding

7.1 Introduction

Axial coding is “the process of relating categories to their subcategories” (Strauss and Corbin, 1998, p.123) to form major categories, which are capable of completely explaining a phenomenon. Axial coding which is the focus of this chapter is the second stage of the grounded theory analysis. However, Strauss and Corbin (1990) mention that open and axial coding processes are not necessarily sequential analytical processes, even though they differ in purpose. In other words, they occur both sequentially and concurrently.

At the axial coding stage, the relationships between different categories are explored, and its purpose is to reassemble data that was fractured at the open coding stage in order to establish connections between the categories (Strauss and Corbin, 1998).

Conceptualisation of the open categories resulted in the evolvement of main categories which is the subject of discussion in this chapter. Therefore, this chapter discusses in detail the main categories derived from the data as well as the way these categories relate to each other.

The development of core categories and their relationships is very much related to the discovering of the core phenomenon, which is theoretically the outcome of selective coding (emergent theory), will be presented in the next chapter.

7.2 The main categories

In the open coding process, the open concepts were connected to form open categories. As a result, seventeen open categories were created. these seventeen open categories which have been recognized and analysed, are as follows: Stakeholders’ expectations; Governance; Budgeting practices; Accountability; Evaluation policy (Performancing); Accounting system; Organisation structure; Organisation’s culture; Organisational assurance; Values; Strategic planning (Strategising); Manpower (Human Resources); Technical and Technological; Preference; Surrounding environment; Competitiveness; and Motivation. A very precise investigation and review of discovered open categories resulted in finding thematic relationships among them. It became evident that some of these seventeen

categories were related together and thus were classified (categorized) in four main categories. A list of the open concepts which built up each of the open categories have been presented in Appendix C.

At the second stage (axial coding) the seventeen open categories determined in chapter 6 were subsumed into four main categories, namely: 1) stakeholder's concerns; 2) inconsistency, 3) the University's commitment; and 4) uncertainty.

In the axial coding process, the data provided at the open category stage, were frequently compared in terms of attributes and dimensions and between one respondent and another. In the process of comparing open categories, in order to discover their relationships and with the aim of developing the main categories, several critical questions were continuously considered; such as "what does this category represent?", "what concepts or conceptual meaning are behind this category?"; "does it cause anything?"; "is this category a cause of anything?"; "is this category an outcome of a condition?"; "how does it link to other category(ies)?"; "what impact or consequence does it have?"; "how does this category influence the phenomenon?"; and question of such nature. These questions helped to incorporate the open categories in an appropriate to develop more comprehensive categories (main categories) capable of describing the phenomenon extensively.

Table 7-1 identifies the four main categories that were delineated from the open categories in the axial coding process.

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Table 7-1: The main categories and related open categories

Main categories		Related open categories	
7.2.1	**Stakeholders' concerns**	6.4.4 6.4.3 6.4.5 6.4.11	4. Stakeholders' expectations 3. Governance 5. Budgeting practices 11. Accountability
7.2.2	**University's commitment**	6.4.1 6.4.2 6.4.14 6.4.15 6.4.6 6.4.3	1. Evaluation policy (Performancing) 2. Accounting system 14. Organisation structure 15. Organisation's culture 6. Organisational assurance 13. Values
7.2.3	**Inconsistency**	6.4.7 6.4.8 6.4.16 6.4.10	7. Strategic planning (Strategising) 8. Manpower (Human Resources) 16. Technical and Technological 10. Preference
7.2.4	**Uncertainty**	6.4.9 6.4.12 6.4.17	9. Surrounding environment 12. Competitiveness 17. Motivation

Table 7-1 indicates that the main categories were developed from at least three to a maximum of six open categories. The emerging four main categories, as a result of the axial coding analytical process, are presented in the following sections.

7.3 Stakeholders' concerns

The "stakeholders' concerns" is a main category resulting from the synthesis of four main categories: Governance, Stakeholders' expectations, Budgeting practices, and Accountability.

Their differences as well as similarities are now discussed in order to integrate them into one main category. The four open categories interrelate to present the stakeholders' concerns which are the issues and mechanisms that the University is obliged to practice to discharge its accountability and meet its stakeholders' expectations; particularly the two main statutory

and financing ministries as they have significant impacts on the University's activities, performance and survival. While some of such impacts and influences were perceived as positive or opportunities, others were perceived as negative, or threats causing uncertainties.

The governance of the University refers to the Board of Trustees, Board of Governors and the Chancellor of the University. As it was mentioned earlier, the board of trustees encompasses external parties (MSRT and Ministry of Petroleum), while members of the board of governors are the University's academic members who hold executive and strategic positions in the University (vice chancellors, deans and programmes directors). These two boards are the two main governing bodies of the University which outline the plans, approve the programmes, control and direct the University at strategic and operational levels.

The accountability category is heavily focused on financial (budgeting) and audit reports. The main University's area of focus was to address the stakeholder's concerns to discharge its accountability.

In summary, the "stakeholders' concerns" was essentially a very important issue implied by the respondents and was evident from the University documents as well. Having to take the stakeholders' concerns into account means that it should be considered what the consequences and impacts of such main category on the University's performance management and the ultimate performance would be. Apparently, such criteria would result in conformance behaviour. This issue would link the present category to other main categories which is discussed in the next chapter.

7.4 The University's commitment

The "University's commitment" is a main category created through the combination of six related open categories: Accounting system, Evaluation policy (Performancing), Organisational assurance, Values, Organisation structure, and Organisation's culture. These all relate to the University's commitment in various ways, even though they look different to some extent at the first glance, but in fact are closely interconnected and together form a web of interrelated commitment elements.

Organisation structure, Organisational assurance and values for example represent the fact that since the University affiliated with under the umbrella of the NIOC, therefore it is hugely structured and influenced by the NIOC organisational culture and rules and working system.

This is evident where one of the participants mentioned: "…I do not feel I work in a university environment… it seems like an operating or producing work area… the same system, the same criteria, the same behaviour as NIOC… all rules and processes are the same…our structure has been decided and approved by NIOC and we cannot make any change… even our staff system is fed through the main personnel system of NIOC…we have no structural autonomy… managers and authorities should change their mind… they see the University as any other affiliated company…" (Senior staff - administrative and personnel department).

On the other hand, the accounting system and the performance evaluation system were largely in accordance with the NIOC system. They have been implemented to address these issues according to the NIOC rules. Such systems were seen as parts of the University's commitment to NIOC. The role of accounting system in fulfilling the University's commitment is outline here: "…we receive the vast majority of the University fund from the NIOC. We spend the money on different purposes and our main responsibilities is to make sure the money is spent based on the financial rules and regulations of the government, in general, and the NIOC, in particular. We are committed by law to do so, otherwise the University would face serious legal problems..." (Head of financial statements department).

Further multiple relationships existed between the open categories, as already briefly discussed in chapter 6. In summary, the six open categories thus provide the commitment, perceived as more negative (disabling) than positive (enabling), as they were more restraining organisational autonomy and productivity in the context of University feeling of being surrounded by commitments of various aspects which discourage the University to act freely, but behaving in conformance with the stakeholders' frameworks.

7.5 Uncertainty

Uncertainty can be defined as: "something that is uncertain or that causes one to feel uncertain" (Oxford Dictionary). The main category labelled "uncertainty" refers basically to those issues or conditions, whether they are of external or internal natures, which makes it very difficult or even impossible to predict what will happen in future.

This category has been created to enhance the conceptualisation and understanding of the environmental practices, processes which the related categories (Surrounding environment, Competitiveness, and Motivation) underpin them all. The "Uncertainty" main category appears to capture the essence of those conditions (e.g. lack of information, or surrounding

risk) that lead to uncertain situations or instabilities within the context, making it difficult to make correct decisions.

If information is limited, then there might be a certain degree of uncertainty associated with the situation. There are different levels of uncertainty, individual and organisational uncertainty, or uncertainty concerning the performance of the organisation as a whole as much as the performance of individuals inside the organisation. The concept of uncertainty was not explicitly mentioned by the respondents. It could be concluded from this that it was a very important issue the University was facing with. The perceived level of uncertainty was relatively high. Examples of the uncertainty could arise from both internal and external sources, such as: internal and external political conflicts, economic challenges, change of petroleum minister or deputy of human resources development and management, could result in change of the University's chancellor, constantly changing in both government and NIOC rules. In this regard, the head of the deputy of programme and plan has mentioned: "There is a certain complexity and uncertainty due to the current situation… now, if you look at the University, almost everybody does not know what will happen in the near future, even tomorrow…how can do we a reasonable planning on this basis? ... That's very hard, you can quickly get it wrong…".

Expressions of an interview implies uncertainty where he says: "…Most of the time, authorities and the heads of departments do not yet understand how they must contribute to achieve the strategy at different levels of the University…it seems like they just focus on their routine academic roles…in my idea the strategic plan developed at the University is not translated into work plans of each section... Therefore, there is no conformity between performance and strategy and other daily activities…there is an obvious instability and uncertainty going on at the University…actually the University's performance is merely measured for accountability purposes and not really for the effectiveness and efficiency of its resource utilisation…I believe the University requires a performance measurement and management system tool enabling it to translate strategy into implementation strategies at junior levels and be able to harmonise strategies among departments and faculties within the University…".

Competitiveness and motivational factors refer to all those actions and behaviours that added to the extent of uncertainty, and mainly included routines, the lack of motivation, enthusiasm and competitiveness which were influenced by uncertainty, and also re-influenced it. "One of the serious challenges which the University has been recently facing is

an increase in the level of uncertainty originating from the new coming government and the consequences on the two influencing stakeholders, their policies and pressures" (senior director of research department). In conclusion, the uncertainty factor was perceived to be a very important main category which had significant effects in creating various instabilities within the University.

7.6 Inconsistency

The main category "inconsistency" is the result of the integration of four open categories that were labelled: "Strategic planning (Strategising)", "Manpower (Human resources)", "Preference", and "Technical and technological". It essentially refers to all those practices or processes which were inconsistent, or the inconsistency between the University's expressed activities and his actual behaviour. Drawing the different and interdisciplinary properties of the above four related categories together, the "inconsistency" can be outlined.

From a respondent (head of deputy of finance and support) point of view: "the University does have a strategic plan, I mean , a five year development plan, but unfortunately it is only on paper, and is not implemented in practice…", it became evident that the University's activities were not based on a well-developed plan towards a specified goal. Furthermore, the head of deputy of education and graduate studies confirmed that: "…In my idea, having the skilled and committed personnel is crucial to the success… unfortunately we do not have many of them here… on the other hand, employers occasionally prefer and act towards their own exploitation. As they are not happy with their position, salary and overtime they receive, the overall inequality in the system, etc., therefore, sometimes they do not care about the University, I mean they don't perform well". Regarding the IT issues, the head of IT centre emphasised that: "…our facilities are not equally distributed between faculties… some are very well equipped, some not… periodically we face budget pressures meaning that we cannot provide necessary software and hardware tools…although sometimes we receive donations or financial supports from some affiliated companies with NIOC, but they are only occasionally and not consistent…we make decisions case by case and based on the priority…".

The above instances were perceived as signs of inconsistency within the University's practices, particularly issues related to strategy and strategic planning which seemed to play a great role in causing instability.

7.7 Summary

In this chapter four main categories have been evolved from the data in the axial coding stage. These four main categories have subsumed the seventeen open categories which emerged from the data during open coding (discussed in chapter 6). The four main categories are: stakeholder's concerns; inconsistency, the University's commitment; and uncertainty.

None of the main categories emerged or were developed during the open coding stage, but were the product of further investigation and conceptualisation of the open categories. However, it could not be avoided that thinking of how the categories link to each other started to occur during the open coding process (Strauss and Corbin, 1998).

While the output of the first stage is easily described, with increasing abstraction, it gradually becomes more difficult to separate the stages. As a result, the present chapter has been relatively short, while only revealing part of the picture. This chapter has only highlighted the emerging relationships among the main categories. Details of the main categories and their connections in constituting the core categories are presented in section 8.4 of chapter 8, which will explain the selective coding process, as the final analytical stage of this grounded theory study.

Chapter 8

Selective Coding: the Emergent Substantive Grounded Theory

8.1 Introduction

This chapter presents the final analytical stage, selective coding as well as the emergent substantive grounded theory as its outcome. Strauss and Corbin (1998, p.143) define selective coding as: “the process of integrating and refining the categories to form a larger theoretical scheme that the research findings take the form of theory”. They also mention that selective coding employs a paradigm model to integrate the main categories in order to generate a substantive theory. According to Strauss and Corbin (1998), a substantive grounded theory is a theory developed from data collected of a specific area of inquiry and from a particular population that describes the data from which it is derived. They further elaborate that a substantive theory can only be used to explain the phenomena interrogated.

Based on the Strauss and Corbin's (1998) suggestions, during the analytical processes a paradigm model was applied flexibly. Such paradigm model takes into consideration the implications of the prior analytical processes, namely, open and axial coding.

This chapter deals with the identification of the themes and their relationships to the core categories and also description of the emergent substantive theory. Details on all the subcategories and core categories and the way they relate to each other were provided in chapters six and seven. In summary, this chapter explains the paradigm model and demonstrates its application in the research. The emergent substantive grounded theory is also addressed in this chapter.

8.2 The paradigm model: an analytical tool

Strauss and Corbin (1998, p.128) define paradigm as: “nothing more than a perspective taken toward data, another analytical stance that helps to systematically gather and order data in such a way that structure and process are integrated”. they suggest using a coding paradigm model as a tool to integrate the main categories for developing a substantive theory from a grounded study.

A paradigm model contains four basic components or elements: 1) labelled (causal, contextual or intervening) conditions; 2) core phenomenon; 3) actions and interactions; and

4) consequences (Strauss and Corbin, 1990, p. 96). In the paradigm model, conditions can be contextual, causal or intervening or all of these.

Contextual conditions are the specific patterns of conditions in which the phenomenon is situated. Causal conditions refer to the events and incidents that result in the occurrence of the phenomenon. Intervening conditions are those factors that influence the way the causal condition impacted on the phenomenon. A phenomenon is in fact the central idea or pattern of happenings or associated with specific conditions, actions and interactions and consequences. Actions and interactions refer to strategies that are employed to manage or respond to the phenomenon under specific conditions. Consequences refer to the outcome of the phenomenon as a result of the actions and interactions involved.

In the next section the application of the paradigm in this research is explained.

8.3 Application of the paradigm model

The utilisation of the paradigm model is to pragmatically allow a theory to evolve from the data. On the usefulness of the paradigm model, Strauss and Corbin (1998, p. 142) express that: "...analysts should keep in mind that it is not the notion of conditions, actions / interactions, and consequences that is significant; rather, what is important is discovering the ways that categories relate to each other. The paradigm is just one device that analysts can use to think about such relationships. Although helpful, the paradigm never should be used in rigid ways; otherwise, it becomes the end rather than the means".

In this grounded theory study a paradigm model was adopted in accordance with the prior comparative analysis and analytical processes, rather than the components of the model itself. The remaining of this chapter elaborates on this issue describing how the analytical processes and the supplement paradigm model resulted in the emergent theory.

The paradigm model was used from the axial coding stage. It facilitated the conceptualisation of the relationships between the categories. At the axial coding stage, the core categories and central phenomena had started to emerge. For example, when analysing the issues of stakeholders' expectations, governance, budgeting, accountability and reporting, their association with stakeholders' concerns was uncovered. These issues were called to address the stakeholders' concerns.

Moreover, analysing the issue of university's structure, accounting system, culture, values, performance measurement and assurance, uncovered their relationship with the issue of the University's commitment. Further analysing the main categories of stakeholders' concerns and University's commitment, further revealed their association in building the University practices of conformance.

The continuous creating and connecting the categories and conceptualising their relationships (using the paradigm model) gradually resulted in picturing the research phenomena. At the axial coding stage, the core phenomena of conformance and instability clearly emerged. These two emergent core phenomena connect all the categories and narrate the whole story. Consequently, the substantive theory of the progression-regression performance was generated, which explains and helps to understand the factors affecting the phenomena of performance measurement and management within the University.

The next sections elaborate the paradigm model, beginning with the core phenomena or central categories of the research and a set of issues which shape the phenomena. The elaboration is then followed with the conditions, which are a set of events that form the situation and events related to the phenomena and the consequences or outcomes of the phenomena. This apparently and fully describes the natural creation of the core phenomena that demonstrates the emergent substantive theory.

The core categories of this study were conformance and instability phenomena. They were actually conceptual thoughts that emerged while integrating and refining the main categories and their relationships. These conceptual thoughts linked all the categories and illustrated the main tale of this study.

The theoretical concepts emerged naturally from the data without forcing. The discussion of the linkages between categories flowed logically. The two core phenomena in this study were abstract enough that they could be employed in other substantive areas, towards generating a more general theory.

The next section fully describes the core phenomenon of the research.

8.4 The core categories or central phenomena

The core category represents the central phenomenon which pulls together all the other main categories to form an explanatory whole (Glaser and Strauss, 1967). According to

Strauss and Corbin (1998, p.147) a core category: “must be central, that is, it must link all other major categories; must occur frequently in the data; must provide logical and consistent explanations about the data; has to be sufficiently abstract that it can be used to do research in other substantive areas; must possess high explanatory power; and must be able to explain variations as well as the main points indicated by the data”.

Two core categories in this grounded theory research have evolved from the existing main categories. The two central phenomena of conformance and instability shaped the central categories or main theme of this grounded theory study. These two core phenomena greatly affected the way the University performed and contributed to its ups and downs.

On the one side, inconsistency and uncertainty were the two main categories which caused instability. On the other side, participants viewed stakeholders’ concerns and the University’s commitment as the two constitutors of the conformance factor. The participants perceived these four dominant factors (main categories) altogether resulted in a progressive regressive performance within the university context.

For example, junior staffs felt that their performance was evaluated as a usual part of the system, not based on the actual needs and with the aim of improvement. The University executives were of the view that the lack of a serous strategy and highly skilled staff were among the weaknesses of the University. Additionally, a rather undeveloped technological hardware and software infrastructures and systems had negative impacts on the University’s performance.

Furthermore, participants valued more those accounting practices that were considered to address the stakeholder’s concerns. Budgeting practices were considered as a mean to for accountability as well as financial discipline on the part of University. Participants were unanimous in reflecting the steering role of the two influencial ministries on the University and its activities.

Budgeting, annual financial reports and external audit were regarded as necessary and very important tools in reporting the accounting and accountability responsibilities, especially to the funding body. For instance, they mentioned that budgeting together with external audit facilitated the assessment of financial discipline of the University and regarded it as one of their important accountability roles. Their view was that budgeting was useful in the evaluation of performance of the university from the perspectives of the funding ministry. The financing party was particularly concerned with the finance discipline and the external audit reports of the University.

However, in this grounded theory study, the seventeen open categories which were pulled together in four main categories formed two core categories and finally the central category or the main theme emerged. The main theme or the central phenomenon captures the whole story and explains how these factors influenced the University's performance and why it has been progressing regressing over time. The main theme also reflects on the participants' perceptions on the relationships and interactions between the categories or factors which contributed to the overall performance of the university. The main conditions that resulted in forming the core phenomenon are described in section 8.5.

8.5 Conditions in the paradigm model

As mentioned in section 8.2, conditions are one component of a paradigm model. Strauss and Corbin, 1998, p.130) state that "conditions refer to "sets of events and happenings that create the situations, issues, and problems pertaining to a phenomenon and, to a certain extent, explain why and how persons or groups respond in certain ways". There are basically three types of conditions within a paradigm model: contextual conditions, causal conditions and intervening conditions.

Contextual conditions essentially refer to the specific patterns of conditions in which the phenomenon is situated. Such contextual conditions set the background for the phenomenon. Causal conditions are the events and elements which cause the occurrence of the phenomenon. Intervening conditions are those issues which affect the way the causal condition impacted on the phenomenon.

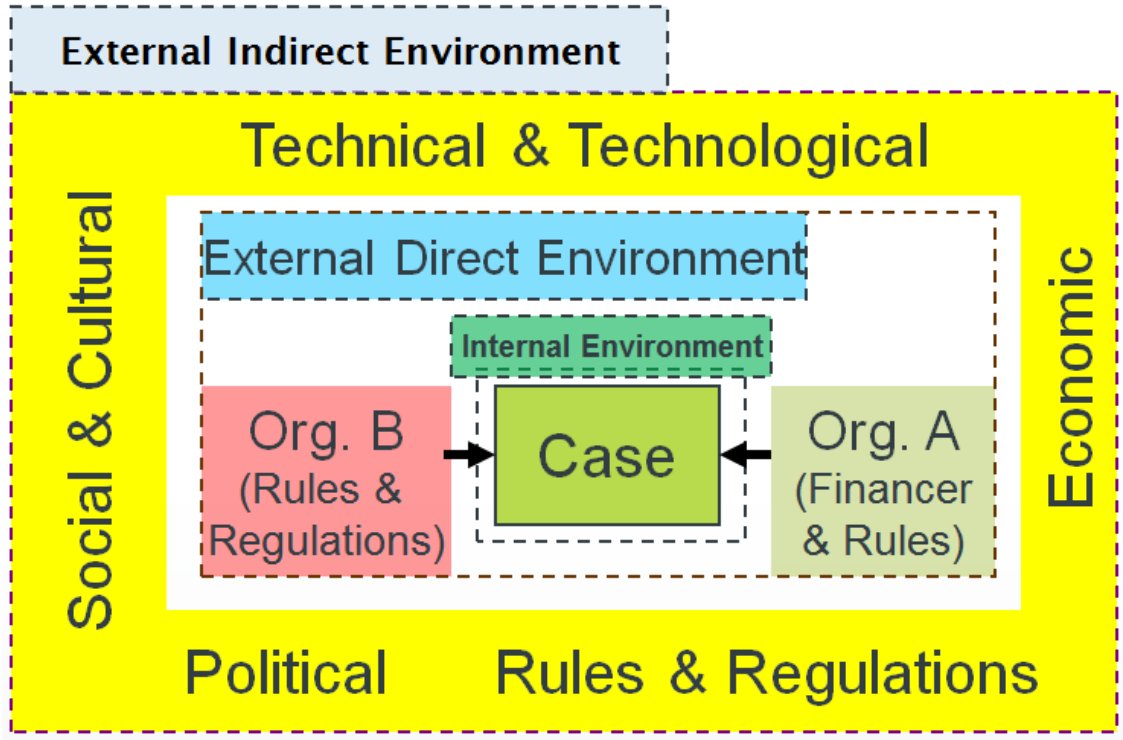
The following elaboration will be based on "contextual" and "causal and intervening conditions", depending on the type of influence that the condition has.

8.5.1 Contextual conditions

The contextual conditions generally refer to the important factors within the overall environment in which the University operated, which, from the participants' experience and perspectives, had significant influences on University's performance. In this study, the contextual conditions reflected three environmental conditions, namely, internal environment (context of the University), direct external environment (representing the two influencing ministries), and indirect external environment (general socio-economic, cultural, political and

other macro level conditions). These conditions are distinguished in Figure 8-1. These conditions (environments) were seen basically as the three levels of factors, which influenced and affected the University's overall performance directly or indirectly.

Figure 8-1: General environments surrounding the University



As it can be seen from the above diagram, the three following environments created such complex situation:

1) internal environment: this is referred to the University itself and its internal and administrative structure. The quotes associated to this issue were got from section 5.4.10 (University's structure) and section 6.3.14 (Organisation structure) and section 6.3.3 (Governance).

2) external direct environment: this is referred to triangular relationships between the University and its two main stakeholders, i.e. petroleum ministry and MSRT. Section 5.4.9 (University's surrounding environment) and section 6.3.4 (stakeholders' expectations) and section 6.3.3 (Governance) trace the external direct environment.

3) external indirect environment: this environment included social and cultural, economic, technical and technological, rules and regulations, and political factors. The external indirect environment was observed from the data analysis and emerged as the "surrounding

environment" open category. This level was built on the discussions and considerations made in section 6.3.9.

Figure 8-1 sets out the stakeholders, influencing and directing activities and governance of the case (University). In general, stakeholders represent potential opportunities as well as threats. As a result, organisations are required to know how influential their stakeholder are and to what extent they represent opportunities or threats. Organisations should also know what they need from each stakeholder and the criteria used by the stakeholders for evaluating the organisation's performance.

The external direct environment presented the influence of external direct stakeholders and included the nature of relationships between these two intervening entities (ministry of petroleum through the deputy of human resources development and management, and ministry of science, research and technology (MSRT); illustrated in Figure?) and the University. Throughout the process of data analysis, it became evident that the external direct environment contributed to the emergence of the core phenomenon both directly and indirectly (see sections 5.4.9 and 6.3.4 and 6.3.3).

To provide a better picture of the direct external environment, itself alone, it is specified in Figure 8-2 (see section 5.4.9 for the original quote) and dissected afterwards.

Figure 8-2: Direct external environment influencing the University

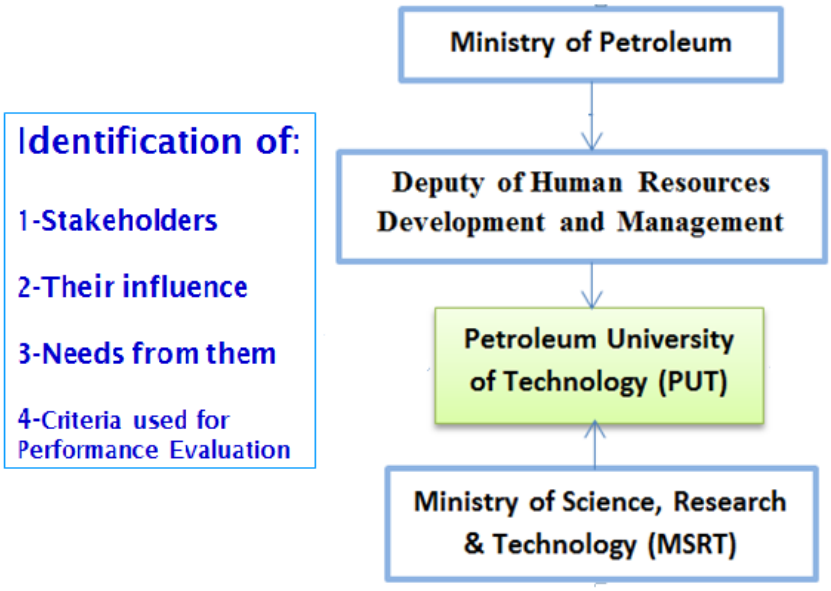


Figure 8-2 illustrates how the University is surrounded and affected directly by the two direct influencing external bodies.

It was uncovered that direct external environment influenced perspectives of the participants of the performance management phenomenon. For example, the regulatory control by the financing organisation over the University enhanced the level of performance management practices in terms of accounting discipline, budgeting and accountability practices with the aim of legitimising the performance.

As an example of the direct external influence is that the University could not recruit suitable permanent employees (academic and non-academic) due to the ministry of petroleum rules and regulations, as well as firing non-productive or unnecessary employees with long term (life time) contracts (reflecting the human resources open category), or it could not select its students because of MSRT rules and regulation. Furthermore, the process of recruiting academic staff should also be conducted strictly based on the requirements and criteria established by both of the two ministries and must be consulted with them according to the up to date procedures.

It was gradually revealed that obedience and compliance with the two stakeholders' imposed rules and regulations were among those major issues that affected and threatened the University's performance. As a matter of fact, the University has been occasionally faced with tremendous pressures from finance and/or regulating bodies to admit and adopt radical changes in its tasks and/or programmes that have been at odds (clash directly) with its objectives and normal institutionalised core practices and functions (teaching and research). On the other hand, the University has been facing with a set of dilemmas incarnated around its functions and activities. Key dilemmas include, but are not limited to, finding an appropriate balance between responsiveness versus autonomy, change versus continuity, termination versus survival, transfer versus continuation, preference between the two ministries, and compromise versus sacrifice. The true of the matter is that, the university has not been willing to successfully sort out such complex initiatives and tensions.

The above explanations as well as Figure 8.1 and Figure 8.2 provide a basis for capturing the complex nature of the relationships and the dynamic process. They essentially reflect an "exigent conformance behaviour model" for the University which makes it conform and behave according to the stakeholders' requirements and expectations (see section 6.3.4). Giving more autonomy and authority to the University so that it could have more control on its human resources, setting up its own mission, vision and strategy, setting out and optimizing the appropriate accounting and performance management practices to assist the University to improve its ultimate performance is proffered as alternative solutions.

To conclude, the contextual conditions surrounding the case studied in this research has been elaborated in this section. As a result, it became partly clear that how and to what extent stakeholders (governing bodies) affected the University and consequently, its performance. Such contextual conditions created an "exigent conformance behaviour model". The outcomes of such influences will be also discussed in this chapter. These issues have been the focus of the fifth question of the research (How and to what extent do stakeholders (governing bodies) affect the University's performance? And what are the outcomes of such influences?).

The causal and intervening factors which will be referred to as external and internal factors are presented in the next section.

8.5.2 Causal and intervening conditions

Both internal and external conditions have been responsible for the emergence of the central phenomenon in this grounded theory study. Strauss and Corbin (1998) use "micro" and "macro" terms for "internal" and "external" conditions respectively. In their definition, micro conditions refer to those conditions that are close to the central phenomenon and affect it directly, while macro conditions affect it mainly indirectly. They further elaborate that macro conditions may create micro conditions (or micro conditions may originate from macro conditions), and hence, in some situations the distinctions between the two may be artificial (Strauss and Corbin, 1998).

Some causal conditions arose from outside sources (external conditions), which were those sources beyond the control of the University and were termed "external factors of influence". Other causal conditions came from sources close to or inside the context (internal conditions) and consequently were termed "internal factors of influence".

The perceived internal factors of influence were issues that were internally raised and perceived to be main contributors to the University's performance. Such internal factors could be either success (or positive, such as stability) or failure (or negative, such as instability) factors, depending on their nature of effect. Internal success factors were to enhance performance and performance management practices, while failure factors were actually obstacles that restrained or limited performance. All the internal factors in this study were treated as causal factors, and indirect external factors were considered as intervening factors which could have impact on the way the causal factors affected. However, it should

be noted that besides the factors behind the phenomenon, some other internal factors which were raised by internal sources emerged and were perceived as intervening factors.

According to the data analysis, all of the internal factors directly impacted the University and were considered to have a strong influence on the phenomenon (see sections 6.3.1 to 6.3.17). Furthermore, based on the data analysis five issues were also identified and labelled as perceived external factors (macro conditions) of influence (see section 6.3.9). They were social and cultural, economic, technical and technological, rules and regulations, and political factors.

In terms of strength, the internal factors and direct external factors (arising from the two governing parties) were perceived to be significantly more influential compared with the indirect external factors.

Figure 8-3 has summarised the seventeen open categories recognised at the open coding stage (see chapter 6). The four main categories generated at the axial coding stage (see chapter 7) have also been specified in Figure 8-3. It further illustrates how these four main categories constituted the two central categories (core phenomena) of conformance and instability (see section 8-4) and their final contribution in affecting the University's overall performance.

Figure 8-3: Open, main, and core categories and their contribution in emergent theory

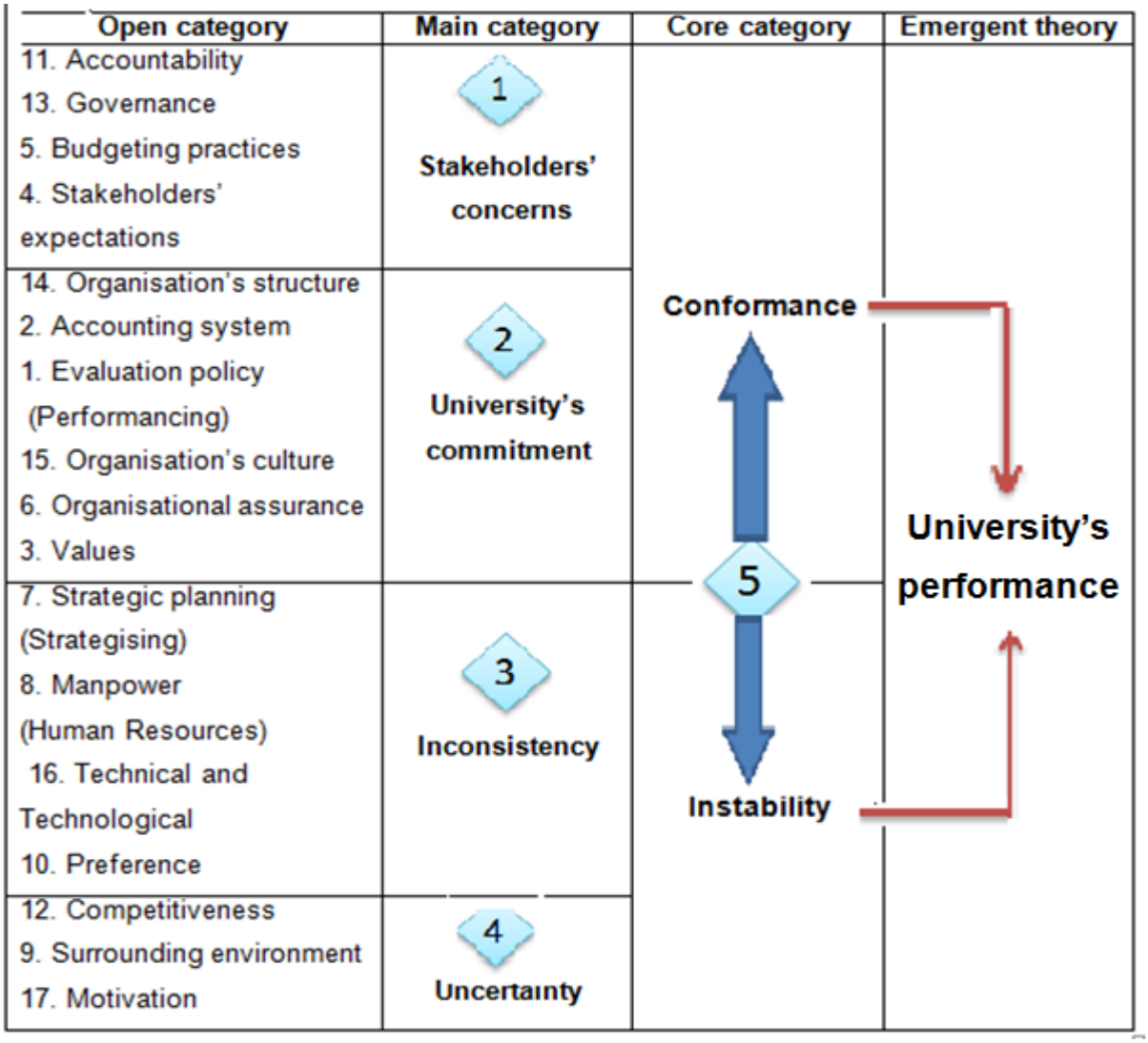
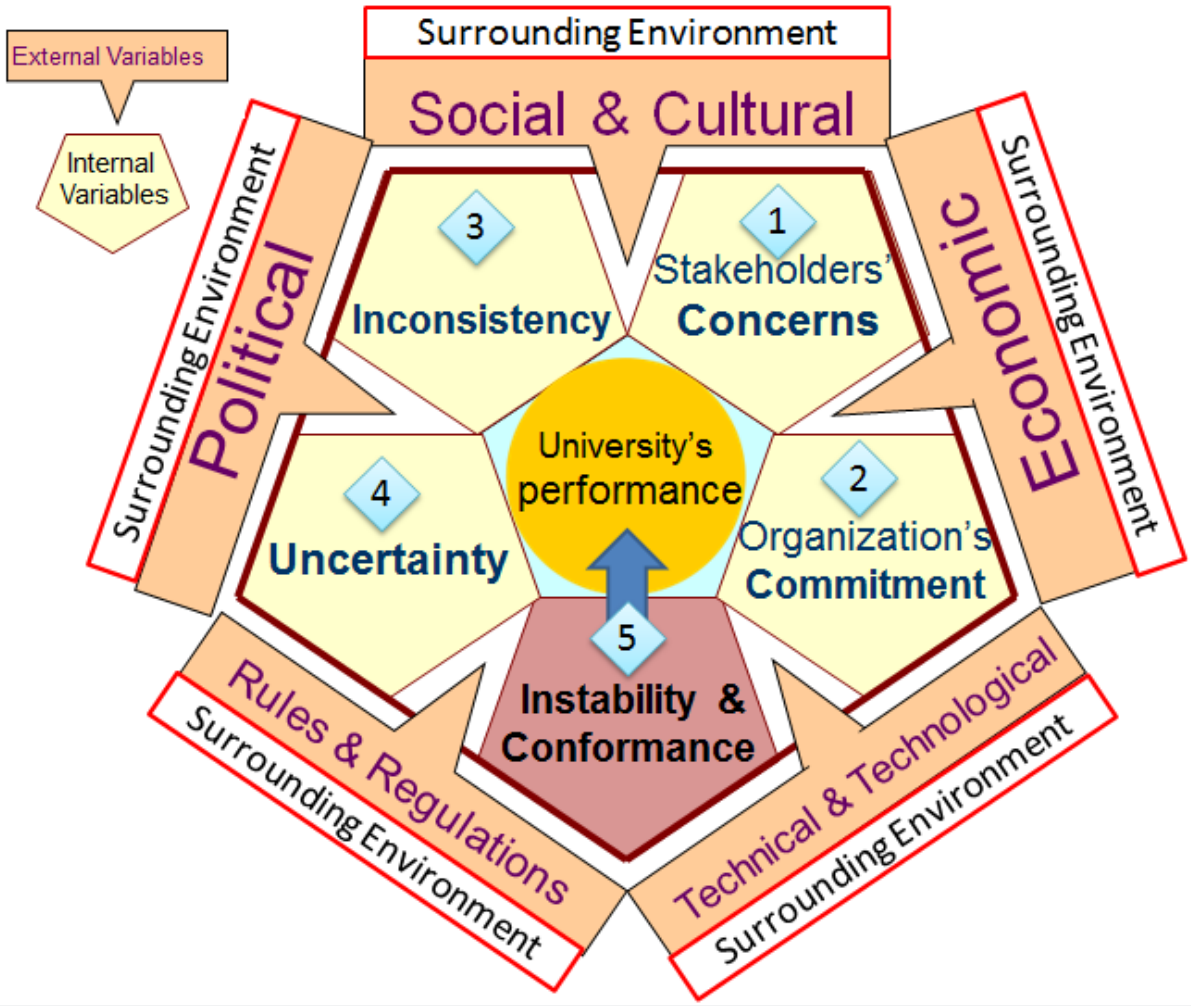


Figure 8-3 basically shows the internal and external (micro and macro) factors influencing the University's performance.

With regard to the above explanations, and by relying on Figure 8-3 which has been developed based on the data analysis (see chapters 6 and 7), Figure 8-4 diagrammatically illustrates the causal and intervening (internal and external) factors affecting the University's overall performance. In Figure 8-4, numbers 1 to 4 represent the four main factors (referring to open categories in Figure 8-3) and number 5 represent the two core phenomena (referring to core categories in Figure 8-3). The "Surrounding environment" refers to the section 6.3.9 and represents the social and cultural, economic, technical and technological, rules and regulations, and political factors, affecting the University's performance.

Figure 8-4: Causal and intervening factors affecting the University's performance



Source: Developed by the author from the data analysis.

The above framework shows the causal and intervening influential factors and their interactions and contributions to the University's ultimate performance. According to the emergent framework, the existing performance of the University was the outcome of the internal and external (micro and macro) conditions. These conditions were crucial in shaping the participants' views of the situation and the manner in which these affected the central phenomenon. The framework also advocates that the internal factors (such as commitment, strategy, accountability, etc.) are more influential compared to external factors (political, economic, etc.). Instability and structure have been considered as the most influential causal factors.

In the previous chapters it was mentioned that specific approaches and techniques have been used to identify and validate the findings of the study. According to the objectives of the research, it was attempted to determine the key environmental forces and micro-macro

drivers influencing the University's performance management and overall performance. All of the above mentioned issues were perceived as either internally or externally (directly or indirectly) influencing the phenomenon, each with different degrees of influence.

This section has covered the issues related to the fifth question of this study (What are other main internal and external factors affecting the University's overall performance?).

The next section demonstrates the consequences of the above three or circumstances conditions which have shaped the core phenomenon of this grounded theory study.

8.6 The consequences

"Consequences" are the final component of the paradigm model and represent the results or outcomes of core phenomena influenced by labelled conditions. The general consequences of the above mentioned micro and macro conditions and their influence on the core phenomenon are elaborated in this section. Based on the data collected and analysed in this study, the participants' perspectives and experience of the phenomenon were central to the way in which the existing image of the University's performance was created.

The internal and direct external factors, as well as indirect external factors altogether (in the form of the two core phenomena) contributed to the situation that gradually resulted in constant fluctuations or ups and downs, like a sinus curve pattern, representing a progressive regressive performance. For instance, the continuous change of the presidents of the University at some periods perceived to be a source of uncertainty and instability in the context. Other conditions included the imposed war, Islamic and cultural revolution, shifting the headquarters. Such micro and macro pressures and supports influenced the University.

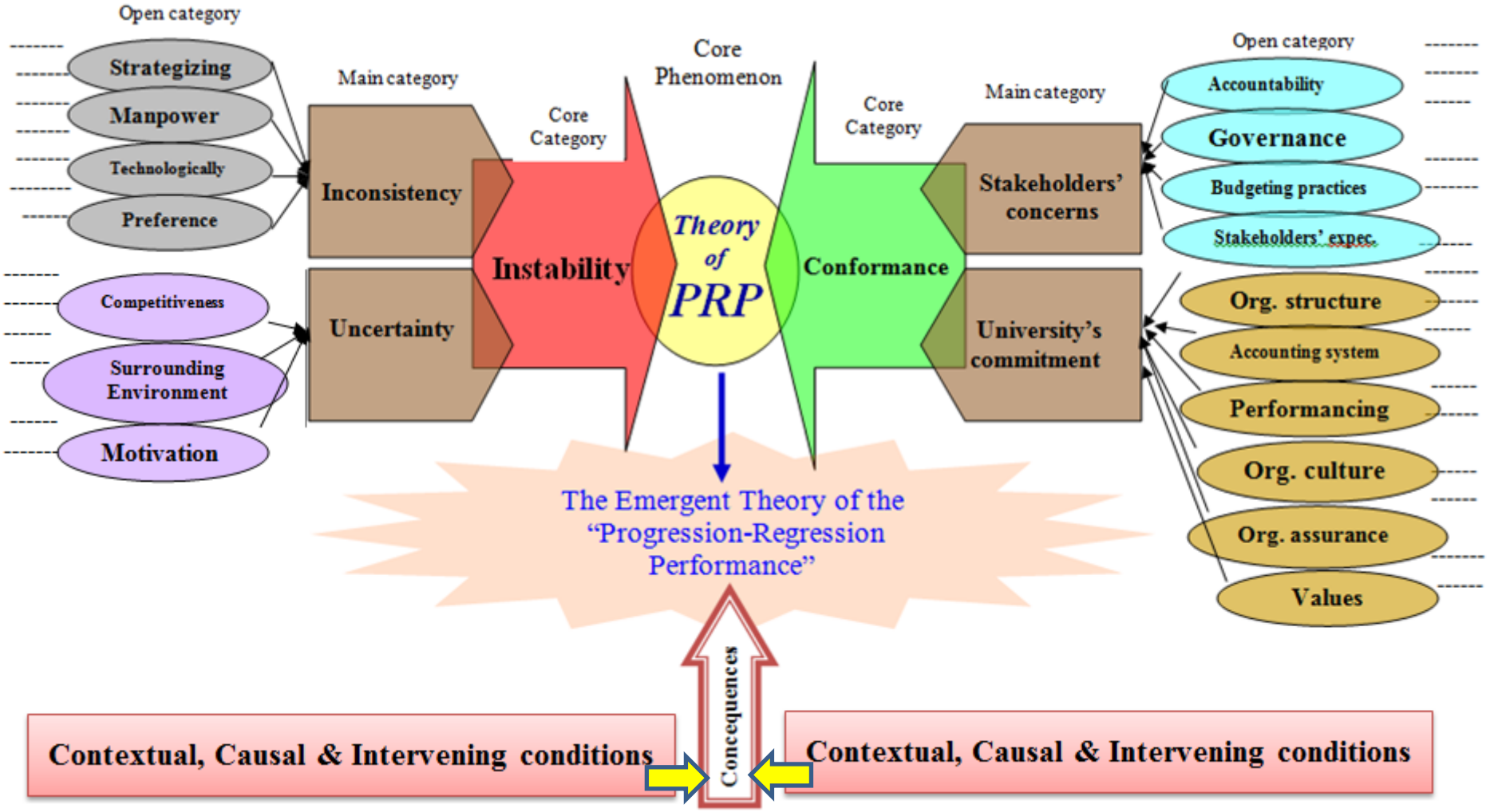
As a result, in this grounded theory study, the previously explained conditions led to the conceptualisation and creation of a fluctuating performance, causing the University's struggling for performance. The "struggling for performance" is essentially a true reflection of the synergetic effects of the all conditions (contextual, causal and intervening). It refers to the fact of not being able to perform efficiently and effectively and improve performance.

8.7 The paradigm model and emergent substantive grounded theory

The above illustrations starting from the central phenomena (core categories) in section 8.4, influencing contextual, causal and intervening conditions or factors as illustrated in section 8.5, and the consequences (outcomes) of those influencing factors as explained in section 8.6 has been diagrammatised in Figure 8-5.

In other words, Figure 8-5 has summarised the emergent paradigm model (emergent substantive grounded theory) for the phenomenon of performance management in the University. As indicated in Figure 8-5, the paradigm model adopted in this grounded theory study comprises four components, namely contextual conditions, causal and intervening conditions, the core phenomenon, and consequences. Both external and internal (micro and macro) conditions have contributed to the emergence and occurrence of the core phenomenon. However, the internal and direct external conditions contributed significantly in shaping the core phenomenon and its consequences.

Figure 8-5: Paradigm model of the progression-regression performance



Source: Developed by the researcher

The emergent substantive grounded theory of this study observes that the two core phenomena of conformance and instability affected the University's overall performance and gradually resulted in the "progression-regression performance". On the one hand, conformance resulted in the 'University's exigent conformance behaviour which provided a complicated situation in which the University had to perform while was enforced to conform to the stakeholders' requirements and expectations. On the other hand, instability had significant impacts on the University. Instability itself was made of inconsistency and uncertainty factors which were explained earlier. As a result of such conditions (influences of conformance and instability), the University were facing many enabling and disabling forces from different sources, with overall restraining effects of performing efficiently and effectively, resulting in the struggling for performance.

In conclusion, the emergent substantive theory is in fact the summation and final outcome of the in-depth data analysis using the set of coding (open, axial, selective) procedures in the grounded theory methodology. As a result, the emergent substantive theory reflects on the all parameters, macro-micro or external-internal factors, environmental variables, and any other issues contributed to the emerging theory. Therefore, the emergent substantive theory in this study has uncovered the influencing roles of the steering ciphers and drivers that affected the university's functionality, causing "struggling for performance" throughout its activities which represented a "progression-regression performance". The emergent theory, progression-regression performance, will help explain and support the practices so that the ultimate performance of the University is improved.

8.8 Summary

This chapter has delivered the core phenomena of study as identified in the selective coding process (the final comparative stage of the analytical process of the research). The emergent substantive grounded theory has also been presented. The paradigm model suggested by Strauss and Corbin (1990,1998) has been implemented to integrate the main categories provided at the axial coding stage (described in the previous chapter) in order to generate a substantive grounded theory on the phenomena of study.

The emergent substantive theory of the "progression-regression performance" reveals that the University is operating under the control and support of two powerful governing bodies,

and such influences along with other internal and external factors has resulted in many operational fluctuations over time.

The emergent theory also explains that if the two governing bodies were in the same line and direction, it would create a synergy that put the University in a unique situation with an extraordinary overall performance.

This chapter has also addressed the concerns raised in the fifth question of the research (How and to what extent do stakeholders (governing bodies) affect the University's performance? And what are the outcomes of such influences?).

The emergent substantive grounded theory will be compared with the relevant extant literature, with the aim of proposing a more formal grounded theory.

Chapter 9

The Emergent Substantive theory in relation to the Extant Literature

9.1 Introduction

This chapter places the emergent theory that was outlined in the previous chapter within the broad extant literature. Glaser and Strauss (1967) advise comparative analysis of an emergent substantive grounded theory with an existing general theory as one of the appropriate approaches to develop a formal theory. Strauss and Corbin (1998, p. 52) suggest that bringing the literature into the writing allows for extending, validating, and refining knowledge in the field.

This chapter aims to investigate the substantive theory of "progression-regression performance", emerged in this research, in the light of the relevant extant literature that it relates to. It draws insights from both the emergent substantive theory and theoretical framework and proposes a more formal grounded theory of progression-regression performance within a wider theoretical discussion.

9.2 The research informed by new institutional sociology (NIS)

As it was discussed in chapter two, in this research the institutional theory is called upon to interpret the case studied. The new institutional sociology (NIS) is especially well suited to exploring further the key findings of this grounded theory research, because it greatly covers and explains the core findings of this study which is focused on the performance management phenomenon within the university sector. The NIS was utilised as a theoretical lens to help explanation of how and the extent to which stakeholders and expectations shape the behaviour and practices, and affect the performance of the University routines and organisations.

The broad objective of this study is to understand the phenomenon of performance and its related practices in a higher education context. A case study of a single University in which there were regulatory and funding influences and pressures imposed by two parties was conducted. At the early stage of case visit and data collection which initial interviews conducted (pilot study stage), institutional theory, specifically the new institutional sociology (NIS) conceived to be the most appropriate theoretical framework. In other words, it was felt

that the NIS was needed as an analytical tool to help explain what was happening in the University. NIS was considered to be the most relevant one as various external factors could be examined and analysed for their influence upon the University's overall performance.

NIS theory deals social processes through which social structures, including rules, routines and norms become institutions or established as taken-for-granted ways of thinking and acting (Meyer and Rowan, 1977; Scott, 2001).

The main propositions of the NIS are firstly, that many elements of formal organisation structures, practices, and characteristics arise as a consequence of the social expectations of appropriate practices (Bealing et al., 1996). Secondly, organisations are motivated to interact with their environment in ways perceived as appropriate by the various stakeholders for the sake of survival and maintenance of legitimacy (Dillard et al., 2004). Finally, behaviours and practices in organisations both at micro and macro levels are shaped by `coercive, mimetic and normative isomorphic processes' (DiMaggio and Powell, 1983, p. 147).

Kondra and Hinings (1998) identify the central thrust of the NIS is to explain the isomorphism of organisational fields (i.e. organisations in a particular field gradually become similar) and the establishment of institutional norms. While the historical past of an organisation accounts largely for "institutions" of an organisation, the NIS scholars argue that some external pressures (referred to coercive, mimetic, and normative isomorphism" ensure conformity to norms. Therefore, pressures upon an organisation to undertake reforms or adopt specific practices can emerge from a regulating authority (coercive pressure), from a norms-setting body (normative pressure), or from leaders of the field (mimetic pressure) (Powell and DiMaggio, 1991; DiMaggio and Powell, 1983).

9.3 Conceptualisation of the Progression-Regression Performance

The emergent substantive grounded theory of the progression-regression performance basically represented the University's fluctuating performance over its history. To help the reader a better understanding and conceptualisation of the emergent theory of progression-regression performance, the following sinus curve pattern diagram (Figure 9-1) has been developed based on the University background (see chapter 5, particularly section 5.4.2).

Figure 9-1: Conceptualisation of struggling for performance

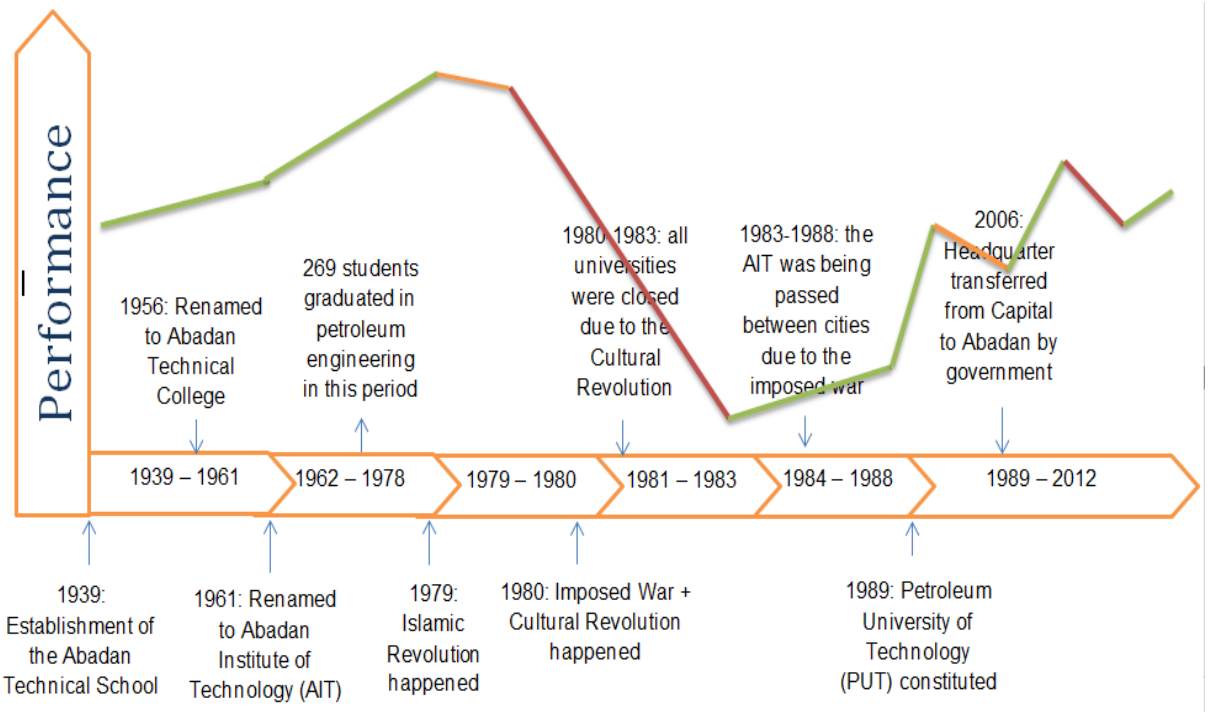


Figure 9-1 clearly narrates the University's pattern of performance throughout its life. Having constant fluctuations, it represents serious struggling for performance. Figure 9-1 has been developed based on the events occurred to the University over time and due to various changes in its condition. The trends is the researcher's conceptualisation of the extent of the event and judgmental, not based on very précised quantitative calculations.

With regard to the above, the University's situation was perceived as a complex and constantly changing environment, and will continue as long as the current influencing factors play such principal or fundamental roles in it.

9.4 Causes of struggling for performance

The substantive grounded theory observed the phenomenon of progression-regression performance driven by the exigent conformance behaviour and surrounding conditions. Conditions for struggling for performance were of two types. These were: 1) Instability, and 2) Conformance. Instability itself was made of inconsistency and uncertainty. Conformance was also made of organisation's commitment and stakeholders' concerns.

9.4.1 The conformance exigent behaviour

The University operates in accordance with the terms of its two major governing bodies who determine the overarching governance framework within which the university functions.
Although the governing bodies do not involve in details and daily managerial activities, but they require the University to conform to their codes, rules and protocols. The university is under a tight control and direct interventions of the two parties without autonomy. However this situation has provided challenges and opportunities for the University. On the one hand, they can benefit easily from the research projects offered by the petroleum ministry; they can also expand and improve their facilities and equipment, and many other advantages.
On the other hand, the University cannot enjoy its own autonomy to govern and manage itself. Even if the university becomes financially independent and could manage itself effectively without the support of the financing body, it cannot get rid of the other regulate setting body. Hence, in the near future, it does not seem the university will be able to receive any kind of autonomy, unless it goes through very cardinal changes which seem currently almost impossible.

The fully resource dependency has become sometimes problematic for the university.
The university does have, to some extent, a degree of autonomy. For instance, the University can appoint and promote its employees at different levels, but there are serious limitations imposed by the petroleum ministry as well. The university can approve new courses, but within the framework established by the MSRT, or after consultation and confirmation with MSRT. There are not however specific rules and restrictions for the university to select its research activities. In summary, the authority for such actions resides ultimately with the university's external authorities and governing bodies who can directly intervene in the governance of the university rather than the university itself to set up its own direction.

The University’s chancellor cannot enjoy unlimited autonomy. This is mainly because of the two main external governing bodies who wish to impose their rules and regulations, monitor and assess the University’s performance and also its internal governing body (board of governors) that holds him and other managers accountable for obeying the rules and operating smoothly.

The discussion of different sources of pressure is classified into three subheadings as follows.

9.4.2 Coercive isomorphism

Pressure emanating from a regulating authority is considered as a “coercive pressure”. In other words, external pressures (e.g. the pressure comes from a superior organisation) are considered as `coercive isomorphism'

The macro and micro (internal and external) contributors processed using the NIS analysis framework, after conducting a scrutinised in-depth analysis using the set of coding (open, axial, selective) procedures, a substantive theory was developed which uncovered the influencing role of such steering ciphers and drivers affecting University’s functionality, causing “struggling for performance” throughout its activities which was an indicator of a “progression-regression performance”. It also became evident that performance measurement and reporting practices were influenced by external bodies, rather than a need identified specifically by the University.

Institutional theorists (e. g. Powell and DiMaggio, 1991) believe that often organisational changes are implemented due to various pressures emanating from the external environment. Therefore, in this study these external environmental factors were targeted to be identified and analysed. In this research the direct external environment of the University was considered as the main source of various influences and pressures resulting in conformance behaviour by the University. The direct external environment of the University is made up of two components. Being a University, it is affected by MSRT. Being an affiliated state University it is affected by the ministry of petroleum and discourse about practices adopted and expected by the ministry. Such pressures and influences from dominant parties represent coercive isomorphism. The University’s progression-regression performance is the result of coercive isomorphism from the two regulatory and funding ministries.

9.4.3 Mimetic isomorphism

Pressures upon an organisation that emerge from leaders of the field are referred to as mimetic pressure. In other words, external pressures (e.g. where an organisation, finding itself in doubt, copies what the perceived leaders of the field are believed to be doing) are considered as `mimetic isomorphism'

Mimetic pressure results from a standard response to uncertainty (DiMaggio and Powell, 1983). Uncertainty as addressed by NIS involves the uncertainty of technology, symbolic

uncertainty, and ambiguity of organisational goals (DiMaggio and Powell, 1983; Ribeiro and Scapens, 2006). This confines environmental uncertainty to the western countries (Alam, 1997). Uncertain environments may also involve economic uncertainties in the context of inflation, exchange rates and GDP, working environment uncertainties,

The University is proud of its excellent quality education and position among other universities. In this regard, one of the interviewees (vice-chancellor of education) stated that "…PUT is an internationally well recognised university worldwide which has trained and introduced strong expects over its more than seventy years of history…well, this is evident. Each year the University selects from among the best students through interviews and national examinations. It provides high quality education to undergraduate and post-graduate students…the results of MSc and PhD national entrance exams has put the University at the second rank in the country, indicating that our students receive the best education among other universities…we also run dual degree programmes and have close educational collaborations with distinguished universities worldwide…". The head of deputy of programme and plan emphasises that: "…the University has contributed and will continue to contribute to the development and self–reliance of the oil industry in Iran by offering quality education to its students. PUT tries to provide advanced facilities such as unparalleled laboratory equipment and instruments for its students…The successful experience of the University in training specialists and experts with the support of the oil industry sends out this clear message: investment by the industry in the university is not an expense, but a long term investment… It is abundantly clear that the University will continue to surpass and excel and the oil industry will keep on counting on the graduates and expects of PUT for innovations and new ideas…". These are quotes of mimetic isomorphism.

9.4.4 Normative isomorphism

Normative pressure refers to the pressure emanating from a norms-setting body. In other words, external pressures (where an organisation, is heavily influenced by norms set by an external body) are considered as `normative isomorphism'.

Hinings and Greenwood (1988) disclose that: 'institutional norms deal with appropriate domains of operation, principles of organising, and criteria of evaluation. Structures and processes are institutionally derived and may even be idiosyncratic to the organisational field".

The conceptual model of exigent conformance and compliance declared in this study demonstrates how relationships between the University and the two influencial stakeholders and their imposed rules and regulations as well as their expectations and requirements constituted the structure and practices of the University that resulted in the University's overall exigent behaviour. The "exigent conformance model" is as obvious example of normative isomorphism; as the normative structures refer to societal values and norms that influence individuals and organisational behaviours. Furthermore, the research findings indicated that performance management practices were carried out for legitimacy seeking purposes (in the eyes of stakeholders) and to some extent for efficiency enhancement as well.

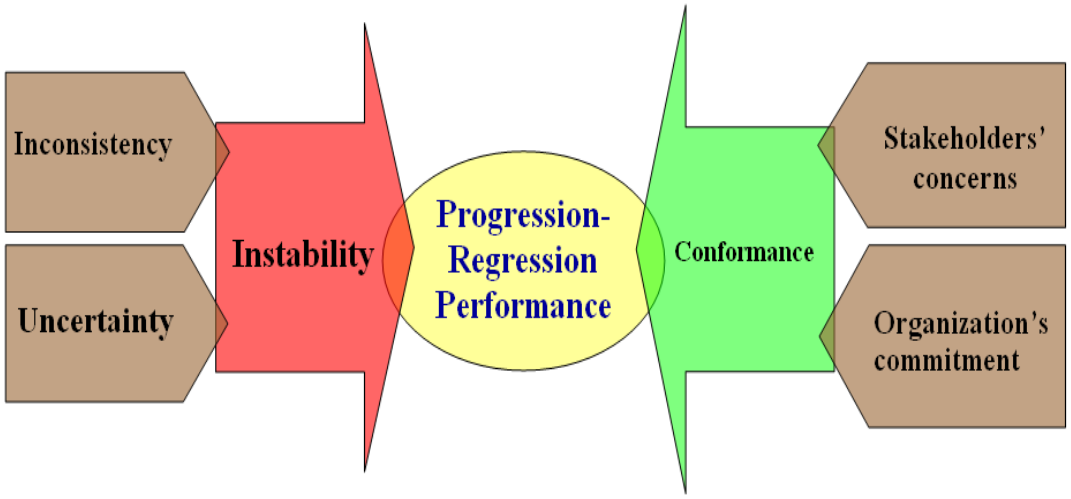
9.5 Consequences of struggling for performance

The end product of the detailed discussion of a substantive grounded theory with a general theory of NIS and findings of other relevant substantive areas is a formal grounded theory of progression-regression performance. The formal grounded theory explains organisational response to both institutional and organisational environment. It therefore explains how such a response of struggling for performance (progression-regression performance) happens, why it happens and with what consequences (Corbin and Strauss, 2008).

The evidence provided in this research demonstrates that all three forms of isomorphic signs (coercive, mimetic and normative) emphasised by DiMaggio and Powell (1983, 1991) are relevant for understanding the performance phenomena of the University. However, the literature on how universities behave under pressure, instability and/or uncertainty is limited.

Figure 9-2 illustrates how the two core phenomena of instability and conformance influenced the phenomenon of performance and resulted in a progression-regression performance.

Figure 9-2: The formal grounded theory of progression-regression performance



9.6 Summary

To make a grounded theory a multi-area theory, a substantive grounded theory should be continuously compared with a general theory, and the findings of other relevant substantive areas (Glaser and Strauss, 1967; Goddard, 2004; Parker and Roffey, 1997; Strauss, 1987).

This chapter dissects the emergent substantive grounded theory within the relevant extant literature to provide a greater understanding through the lens of new institutional sociology theoretical framework. In this study the NIS was used as a general theory to move the substantive grounded theory of progression-regression performance to a more formal theory.

The emergent grounded theory suggests that intervening and expectations of two different regulatory and financing ministries resulted in many imposing limitations and getting involved in bureaucratic wrestles, procedures and fluctuations. The ultimate result of such scenario would be a progression-regression performance. The substantive theory also proposes that other determining internal and external factors contribute to the overall performance in either negative or positive way. The concept of the institutionalisation of performance management is derived from institutional theory. It identifies factors and social processes contributing to the institutionalisation of performance management and shows how this is affected by stakeholders or governing bodies. The emergent grounded theory is consistent with the view that

The conclusions and contributions of this research will be presented in the next chapter.

Chapter 10

Conclusions and Contributions

10.1 Introduction

This chapter is the final conclusion chapter of this thesis which summarises the research and provides the reflection of the research aim, objectives and questions, key findings, contributions and limitations of the research. It has also some suggestions for future studies.

10.2 Summary of the research

This study has tried to get an in depth understanding of the performance management phenomenon in a higher education environment. In other words, this research has reflected the perceptions and perspectives of the academic and non-academic staff of the University in their dealing with the measurement and management of the University's performance. The aim was to develop a substantive (not formal) theory to explain how performance is measured, managed and reported in a single case (special) university which is financed and regulated by two dominant ministries, and what the outcomes of such interference (their effect on the University's performance) are.

The university investigated is located in Iran and the research was conducted through the grounded theory methodology. Data was collected via multiple qualitative approaches, including interviews, observations and document reviews. Then after, the collected data were analysed using grounded theory coding procedures suggested by Strauss and Corbin (1990, 1998).

The phenomenon of this research is socially constructed. In other words, in terms of epistemology, since this study tries to understand and interpret performance management practices within a case university, thus it is located within the interpretive accounting research paradigm. In addition, in this research the reality is not seen as it exists out there as a concrete structure and therefore, in terms of ontology, it takes a stand in the subjective research paradigm. Finally, for the research approach, an inductive processes has been emphasised

10.3 Key findings

In terms of practical or empirical contribution, this study provides two main contributions. Firstly, a special case university, with unique features and characteristics was selected and investigated which has not been previously touched. The second major empirical contribution relates to the first hand empirical data which was mostly collected through face to face interviews along with observation and other rich data sources.

The results of this study, also provides some implications and guidelines for practitioners and policy makers in higher educational contexts as well. Firstly, they should pay much more attention to the performance subject. Secondly, the necessity of implementing a modern and appropriate performance measurement and management in universities has become evident and they need to address this requirement. In addition, they have to provide a platform to promote and enhance performance. Thirdly, the lack of autonomy and direct influence of multiple stakeholders would complicate the situation and result in ineffective and inefficient performance.

10.4 Reflection on the research objectives and questions

Overall, this research has achieved its aim and objectives, which attempts to understand the process of conceptualising, measuring, managing, and reporting performance of a single University through the research questions outlined earlier in chapter one (sections 1.3 and 1.4) and chapter four (section 4.18). This section summarises the main findings of the thesis in terms of each of the objectives and their related questions pursued.

10.4.1 Objective one

To identify the gaps in the area of performance, performance measurement and management practices that can lead towards improvement in overall performance, the study resorted to previous literature.

As discussed in chapter two, there are numerous efforts made to understand performance and execute performance measurement and management practices. Historically, performance management studies have originated in western countries. Research on this topic has initially tended to focus on manufacturing companies from those countries. However, during the past decades, the concept of performance and its related phenomena has evolved and different theoretical and practical approaches (Kaplan et al. 1996, Neely,

1999) have been selected by researchers to define and operate the concept and answer the questions concerning the issues and forms of performance within different organisations and environments such as universities and higher education institutions.

The term “performance” has been used extensively over the last two decades by both academia and practitioners within organisations without clarifying exactly what they mean by this concept. It lacks a single definition within the literature of organisational studies. As a result and because of the ambiguity of the lack of clarity, scholars in this field face difficulties to compare the researchers’ results in order to build on one each other’s work.

With regard to the above and to achieve the first objective of this study, the two following questions (question one and question two) were propounded.

10.4.1.1 Question one

“What is performance and how is it conceptualised at the University?”

Regarding the first question of this research about what organisational performance is and how it is conceptualised, this research has discovered that performance is a complex, multidimensional, multidisciplinary, and there are different and sometimes conflicting understanding and conceptualisation of the phenomenon. Staffs of the University need to get better acquainted with the term “performance”, its meaning and importance within the University.

This study has scrutinised the performance term and its functions and dimensions through reviewing the literature and discussing it with the University’s employees. Furthermore, to overcome such misunderstandings and conflicts, this research has suggested a comprehensive multidisciplinary definition of performance to be provided.

From the researcher’s point of view, this issue can be addressed by undertaking a content analysis of different definitions of “performance” to lay down a path for proposing a multidisciplinary integrative extant definition of organisational “performance” to cover various aspects of this concept. It would be in fact a literature review based research study which attempts to overcome this obstacle and generate a multidisciplinary definition of organisational ‘performance’. To achieve this aim, different definitions of ‘performance’ are gathered and reviewed from the literature and analysed through conducting a “content analysis” approach. It can be conducted in two phases: 1) Definitions collection, and 2) Content Analysis.

At the “definitions collection” phase, a systematic approach can be used to review the existent different disciplinary definitions of organisational “performance” in management, accounting, business, economics, organisation, society, technology, science and engineering literatures. Such investigation makes it possible to produce a representative pool of organisational “performance” definitions. To explain in more details, at this phase, all (or as many as possible of) current definitions of organisational “performance” across disciplines over the last 3 decades will be gathered. It will be done by reviewing the relevant journals, books, published researches and other [online] databases.

At the “content analysis” phase as the second step and in order to identify the key attributes mentioned in these definitions, a content analysis of definitions is carried out. It provides the basis for profiling and interpreting the descriptors used in relation to each attribute. “Content Analysis” term can be used based on Holsti’s (1969, p. 14) definition: “any technique for making inferences by objectively and systematically identifying specified characteristics of messages”. According to Bryman (2001, p. 177) who states ‘content analysis’ “is an approach to the analysis of documents and texts . . . that seeks to quantify content in terms of predetermined categories and in a systematic and replicable manner”, it seems this approach is the most appropriate to this issue. The sequential procedure in this regard would be: 1) classification of definitions; 2) word frequency process; 3) words grouping; 4) identification of the attributes and assigning the descriptors; and 5) final analysis and definition proposition.

By doing so, several key attributes present in definitions can be identified, defined and descriptors to them would be assigned. As a result, and built on the different definitions, a multidisciplinary integrative definition of organisational “performance” which embraces different perspectives and aspects of “performance” and represents its essence can be proposed. By doing so, the commonalities of key attributes and classified characteristics of performance found in the literature, would be extracted and a comprehensive, unified, and clear definition for performance would be created.

10.4.1.2 Question two

“How is performance measured, managed and reported by the University?”

The second question is concerned with how the University measures and manages its performance, and reports it to the relevant parties (stakeholders). The research has

disclosed that the University's performance is measured at two levels (individuals and University). However, these performance measurement and management practices are done through traditional tools and tactics. The official ways of reporting are also mostly through financial statements, audit reports and other formal of governmental investigations.

As discussed in chapter two, literature on the application of KPIs, measures and metrics in higher education for performance measurement and management purposes is relatively rich. Whilst the literature has placed extensive attention on the importance, balanced measurement, management and reporting of performance for internal and external reporting purposes, far less attention has so far been given by the University to the implications of performance practices. The adoption of a comprehensive performance measurement system was not recognised. However, some techniques and processes were used in practice. Therefore, the University needs to develop a new modern performance measurement and management system to address its requirements in this area. This research has addressed this omission.

It also became evident that performance measurement and reporting practices were influenced by external bodies, rather than a need identified specifically by the University. Obedience and compliance were among major issues that threaten the performance of the University. However, a suitable performance management system is needed to assist PUT to optimise its performance.

10.4.2 Objective two

2- To investigate the use of tools, mechanisms or systems in the performance measurement and management practices.

Any performance measurement and management system uses a set of performance indicators and measures which are designed and tailored specifically for the designated organisation. This objective was adopted to find out KPIs and measures used by the University for its performance measurement and management purposes.

Furthermore, scholars in accounting and performance fields have associated these two phenomena together. The use of accounting information in performance measurement and management in both profit and public sectors is also well documented. Therefore, this important research objective was set up to find out if there are any relationships between the University's performance management and any other systems (with an emphasis on the

accounting system). The next two questions (questions three and four) would elaborate on this objective in detail.

10.4.2.1 Question three

3- What and how are key performance indicators (KPIs), measures, and metrics used by the University to measure and manage its performance?

For the third question of the research (performance indicators and measures), it was revealed that appropriate performance measures have not been well addressed by the University. In other words, despite the use of some patchy measures, the adoption of a set of proper and well defined measures within a structured purposeful system was not established.

10.4.2.2 Question four

4- How and to which extent is accounting information used in the process of performance measurement and management at the University, to evaluate the performance for reporting to the relevant parties?

It was found that the University frequently uses accounting information produced by its accounting system to measure its performance with the aim of discharging its accountability and gaining legitimacy. Such information produced and used would principally include interim and final financial statements, budgeting and internal audit reports, third parties' reports (audit organisation and supreme audit court). Such accounting information is especially investigated by the financing stakeholder (petroleum ministry) and the University's performance is judged on that basis. It also became evident that the accounting information produced was seldom used for strategic decisions. In other words, neither the University nor its stakeholders use accounting information in setting up their strategy (strategizing).

10.4.3 Objective three

3- To identify the University's stakeholders and investigate their influence.

The environment within which an institution or organisation operates, plays an essential role in true identification and analysis of the factors affecting its performance. Therefore, in this study such environmental factors were targeted to be identified and analysed. The direct external environment of the University is made up of two components. Being a University, it is affected by MSRT. Being an affiliated state University it is affected by the ministry of petroleum. The question below helped greatly to achieve this objective.

10.4.3.1 Question five

5- How and to what extent do stakeholders (governing bodies) affect the University's performance? And what are the outcomes of such influences?

Concerning the governing bodies, two major and dominant regulating and financing stakeholders with direct influential power were identified. Their rules, regulations and enforcement acts were considered to be very constituent and determinant to the University. In other words, the University has to obey all the rules and regulations set out by the Ministry of Petroleum and MSRT. However this situation provided challenges and opportunities for the University which was discussed and analysed in this study. The outcome of such influences and expectations was considered as exigent conformance behaviour.

10.4.4 Objective four

4- To identify other influencing and environmental variables and factors which affect the overall performance of the University studied.

PUT has always been facing challenges which made the University not able to operate at its full or at a high level of its capacity and grow to become a prestigious and leading academic centre worldwide or to a lesser amount in the region. This is however far from the University's mission (the University's purpose and primary objectives of educating distinguished petroleum experts) and vision (to become a leading centre of excellence in the region and maintaining this lead). In spite of a great amount of efforts, dedications and financial and non-financial supports, the University could not have been successful in achieving the high levels of its goals. This issue has been one of the main concerns and objectives of the research to find out what other main factors affect the University's overall performance. The sixth (which is the last) question of the research addresses this objective.

10.4.4.1 Question six

6- What are other main internal and external factors affecting the University's overall performance?

In order to answer the question of other main factors affective the University's performance, besides the above mentioned two stakeholders, several other main internal and external influential factors (at micro and macro levels) affecting the University's overall performance were disclosed. The research suggests that the internal factors are more influential than external factors. Moreover, instability (which is made of uncertainty and inconsistency) was found to be one of the most internal influential factors. It was discussed that such factors have been conceptualised as contemporary barriers to achieving effective and efficient performance. The identified main internal and external influencing factors, were considered as the roots of constant fluctuations and the ultimate progression-regression performance by the university.

The next section highlights the contributions of this research.

10.5 Contributions of the research

This research has made several contributions in three aspects: theoretical contribution, methodological contribution, and practical contribution; which are discussed separately in the next following sections.

10.5.1 Theoretical contribution

In this study a new substantive theory of the "progression-regression performance" of a special university in the context of higher education in Iran has been discovered. As Strauss and Corbin (1998, p.15) have defined, theory is: "a set of well-developed concepts related through statements of relationship, which together constitute an integrated framework that can be used to explain or predict phenomena".

The new emergent theory in this study, "Progression-Regression Performance", can add to the existing body of knowledge on performance management in public sector, particularly in higher education sector. This new theory explains the performance of organisations under the pressure and influence imposed directly by two or more stakeholders. As the label "substantive" implies, this theory is generated on the basis of the specific research setting of this research. Thus, it comes from the real-world situation. Although the results of this

research cannot be generalised beyond the substantive population but it can inspire universities and other higher education institutions in similar contexts.

As a rigorous academic research, the emergent theory of the “Progression-Regression Performance” will help to recognise the influencing key factors and driving forces from different viewpoints of the current environment with its specific scenario and implications. The developed model also determines current situation and future pathways which the University may follow.

Secondly, this study has found a conceptual model entitled “the exigent conformance model” which describes how the stakeholders and regulators triangular relationships constructed their realities and practices which resulted in the university’s overall exigent behaviour. The conformance exigency refers to the establishment of rhetoric rules and regulations, and their implementation in a fashioned-way which accommodates the specific existing requirements and expectations of the university. In other words, it became evident that the University’s exigency of compliance and conformance to the rules and regulations is one of the main reasons of the existing progression regression performance.

This research also extends some of the existing findings in terms of performance under pressure and control, uncertainty and instability, or other internal and external factors influencing the performance of an organisation, including economic, political, social and technological factors.

It should be noted, the emergent substantive theory in this study can be a basis for further theoretical and practical (evidence based) investigations towards establishing a more formal theory. It can be also further explored with other established theories in this area (e.g. stakeholder theory, agency theory, etc.)

This research has also provided a strong basis for the introduction and production of a new unified, comprehensive, and multidisciplinary definition for the organisational performance. It is uncovered that performance is a multi-layered phenomenon that can be conceived at individual level, group level, organisation level, or any other level depending on the aims and objectives. A literature review on performance (with particular emphasis on its dimensions, functions, features, aspects, components, and properties underpinning the phenomenon) culminate in the development of a unified and comprehensive theoretical definition or framework (see section 10.4.1.1).

Finally, a successful performance measurement system model has been created in this thesis and introduced to the literature (see sections 2.10 to and 2.12 (including subsections

2.12.1 to 2.12.7)). Such model was lacking in the literature which is founded and addressed in this research. In this regard, it was found that conceptual understanding of performance measurement systems (PMSs) and critical success factors (CSFs) such as the degree of support from management and employees, and skill in designing key performance indicators (KPIs) and measures are all significant issues in implementing an effective PMS. Therefore, it would be wiser for organisations to notice and pursue the CSFs involved with their PMSs, rather than just employing a PMS. Without them being determined, successful PMSs will not be attained. It also became ecvident that recognising and the use of CSFs is still uncommon among organisations.

The "successful PMS model" created in this study helps organisations by setting out CSFs, underpin their PMSs. In promulgating the model, it is hoping to encourage the development of a more substantial body of knowledge. The CSFs outlined in the model introduce the key important parameters for helping to build such knowledge. The model is intended to be more enabling than prescriptive and would be a useful framework for organisations to get direction. For the future, some in-depth practical research in a real context should be conducted to discover the more tested reliable CSFs. Also, more comparative and consultative PMSs should be developed. Such systems create powerful incentives for performance improvement and thereby help employees, managers and organisations get more benefit from them. In fact, the more comprehensive a PMS (e.g. considering other outside stakeholders), the more benefits achieved.

10.5.2 Methodological contribution

10.5.2.1 Use of grounded theory methodology

In terms of methodological contribution, most of the studies reviewed in the current literature on performance management, have been conducted through quantitative approaches.

As it was discussed in chapters 3 and 4, the functionalist paradigm cannot provide such rich understanding: "Grounded theory practitioners argue that studies which begin with pre-defined operational variables developed from positivist hypotheses exclude the possibility of identifying either new 'variables' or categories of data, or a more meaningful (as distinct from statistically significant) analysis of the relationships and patterns between variables" (Parker and Roffey, 1997, p. 227).

Besides, out of those few studies which are informed by qualitative studies, most of them have used other qualitative methodologies (such as case study), rather than grounded

theory methodology. A qualitative organisational research methodology, where the main sources of evidence is provided by semi-structured interviews, documentation and direct observations, is used in this research.

Previous studies have used grounded theory for a variety of reasons including limited coverage of the subject in the literature, complexity of the phenomenon, a need for a rich understanding, and little existing theory. It was extensively argued and reasoned in chapter four why grounded theory methodology was a suitable vehicle to conduct the research with. In fact, grounded theory seeks to generate a theory which relates to the particular situation forming the focus of the study. This theory is "grounded" in data obtained during the study, particularly in the actions, interactions and processes of the people involved. Out of several versions of the GT, the rationale behind the Strauss and Corbin's (1998) seemed to be reasonable for the research.

This research has provided an opportunity to adopt a legitimate and appropriate suitable methodology to the performance management area. GT approach was selected at the methodology of this study, as in general, there is not much research in performance management practices in higher education sectors in developing countries.

In this research the grounded theory provided a rigorous framework for designing and conducting a longitudinal exploratory case study of organisational performance within one case university. Moreover, the University studied is under a direct influence of two steering powerful bodies and researcher has had no idea of what is happening within the University and how it measures and manages its performance. Such issues have not been addressed in the literature (of how universities perform and react when they are under pressure from different sources simultaneously).

In addition, underlying this approach to qualitative research is the assumption that all of the concepts pertaining to a given phenomenon have not yet been identified, at least not in this population or place; or if so, then the relationships between the concepts are poorly understood or conceptually undeveloped" (Strauss and Corbin, 1990, p. 37). One of the unique features of GT is that the opening research question is not necessarily the research question which will be followed throughout the grounded theory case study. Strauss and Corbin (1990, p. 38) recognise that the research question(s) might change as the study progresses: "while the initial question starts out broadly, it becomes progressively narrowed and more focused during the research process, as concepts and their relationships are discovered to be relevant or irrelevant".

With regard to the above, this research contributes to the existing body of knowledge by adopting interpretive approach of grounded theory to investigate and explain in depth the phenomena in a higher education context of a developing (non-western) country. Furthermore, by using the Straussian approach of the grounded theory (Strauss and Corbin, 1998, 1990), this research has provided detailed coding procedures and emergent theory and documented this variation of methodology to increase the understanding.

10.5.2.2 Use of new institutional sociology (NIS) theory

This research not only contributes to the adoption of new methodology, but also use of the new institutional theory of sociology (NIS) as well. Institutional theory basically deals with social processes as well as their outcomes. However, the NIS theory is concerned with social processes through which social structures, including rules, routines and norms become institutions or established as taken-for-granted ways of thinking and acting (Meyer and Rowan, 1977; Scott, 2001).

NIS proposes that institutions are constructed through social processes in the course of human interaction (Meyer and Rowan, 1977). This is consistent with grounded theory methodology which involves identification of social processes that give rise to specific social phenomena (Strauss and Corbin, 1998). The emergent substantive grounded theory has identified both internal and external factors and contextual social processes that resulted in the University's progression-regression performance in which was influenced by the stakeholders and other mentioned factors as well. The NIS theory has provided suitable theoretical lens to explore further the core findings of the research. In fact, the NIS theory was perceived to be quite close to the key findings of this grounded theory study.

10.5.3 Practical contribution

This research practically adds to the body of knowledge by understanding a complicated multi-layered phenomenon (performance measurement and management practices and dominant statutory and funding stakeholders), by entering an untouched context collecting the first hand data from a university located in a developing country which was investigated for the first time.

Furthermore, this research provides an opportunity to map PUT's performance as a way of considering how successful (or otherwise) the performance management and interventions

over the last decades have been. This analysis can shed light on the future performance of PUT.

There has been a great trend towards increasing the efficiency and effectiveness of organisations' performance, including universities. According to the findings of the research (based on the data analysis) and the existing gap in the literature, a dynamic and comprehensive framework of micro and macro (internal and external) factors has been developed to recognise the environmental different types of influences and pressures as well as their sources on the performance of an organisation. This framework, which places more emphasis on the influences of internal and direct external forces, has been shown in Figure 8.3. As the framework has illustrated, the organisational performance is the ultimate outcome of different practices and influences in the organisation. An overview of the framework suggests that the University should go through a cardinal structural change. The implementation and success of change are determined by the recognition of the framework of the internal and external influences, and how effectively rulers and decision makers work together (as part of multidisciplinary and multiagency bodies). Though such framework sounds helpful, but its actual realisation faces many impediments and it will not be without its own challenges and hurdles.

10.6 Limitations of study and suggestions for future research

In this research, attention was given to the internal and external issues implications of the conceptualisation, measurement and management of a case university performance in a grounded theory study. Besides the performance-focused implications discussed in this research, there are other factors and considerations related to the phenomenon studied (such as strategy, accounting system, budgeting, governance, competition, competitive advantages, bureaucracy, internal and external audit, quality of education and research, public versus private, modern versus traditional, and their all interactions) that the future research needs to reflect on. In other words, future research could explore the possible links between organisational performance and other areas and other settings. Thus, future studies can compare the findings of the current study with research undertaken in other sectors and contests to develop international comparative frameworks.

At the stage of data collection, sometimes, the researcher encountered some authorities, managers or their subordinates treated the research as an intrusion, or were unwilling

participants or sensitive to questioning, or sceptical of the research objectives and agenda. These issues caused difficulties for the researcher. The other point was the information could be affected where participants feared being reprimanded for harbouring views that were different from their heads, or were against the norms or regulations. The researcher therefore had the ethical responsibility of addressing concerns of individual privacy and confidentiality, disclosure, and informed consent.

There have been several limitations, which provide some implications for future studies in the field of organisational performance in universities. First, this research produced a substantive grounded theory. In this regard, it is suggested that grounded theory studies should extend using the established theory to form a new formal theory. Therefore, future studies should testify the emergent theory within existing theories to promote a more formal theory generation.

Second, the emergent grounded theory explains the phenomena of skills development in this research setting, which focus solely on a single university as a case study. Thus, its generality is limited. Thus, future research could generalise the theory by considering other setting such as other university educational programme, other potential employers to the extent, other higher institutions in other countries to promote general theory on the phenomena.

It should also be emphasised that the aim of this research was to develop a theory, not to examine a single case. Therefore, this research does not testify the proposal. Thus, future research could test the conceptual hypothesis.

The other implication is that, this research has focused solely on a single university as a case study. Thus, the emergent grounded theory explains the phenomena of organisational performance in this research setting and its generality is limited. Thus, it is suggested that future research consider more cases or universities or other higher institutions or contexts in other countries to be able to generalise the emerging theory(ies) to promote general theory on the phenomena.

In conclusion, future research could further develop this context-specific generated theory to form a general theory on the phenomenon.

Appendix A
Ethics Review Checklist

Project Title: performance Management in Higher Education: A Grounded Theory Study

Researcher(s): SEYED MOHAMMAD JAVADI

Funder: Petroleum University of Technology (PUT)

Part One

Does your research involve any of the following?

	YES	NO
1. Interviews	*	
2. Questionnaires/Surveys		*
3. Analysis of personal details (e.g. bank records, personnel or admin records, test results etc.) that are not already in the public domain (e.g. published in a book)		*

If you have answered 'NO' to all of the above then your research does not need any further ethical consideration. If you answered 'YES' to any question then please continue on to Part Two and Three below.

Part Two

	YES	NO
Does the study involve participants who are particularly vulnerable or unable to give informed consent? (eg children, adults with special difficulties etc)		*
Will the study require the co-operation of an advocate for initial access to the groups or individuals? (eg children, people with disabilities, adults with a dementia etc)		*
Could the research induce psychological stress or anxiety, cause harm or have negative consequences for the participants (beyond the risks encountered in their normal lifestyles)?		*
Will deception of participants be necessary during the study? (eg covert observation of people)?		*
Will the study involve discussion of topics which the participants would find sensitive (eg sexual activity, drug use)?		*
Will financial inducements (other than reasonable expenses or compensation for time) be offered to participants?		*
Are there problems with participants' right to remain anonymous, or to have the information they give not identifiable as theirs?		*
Is there any way the participants might be unaware of their right to freely withdraw from the study at any time?		*
Will the study involve recruitment of patients or staff through the NHS?		*
Does the study involve any sort of confidential data that may need to be destroyed at the end of the study?		*

Part Three

For each item answered 'YES' in Part Two, please give a summary of the issue and action to be taken to address it.

Please continue on a separate sheet if necessary

Signed: Date:

(Principal Investigator)

To be completed by the Chair of the Ethics Committee

□ Appropriate action taken to maintain ethical standards – no further action necessary

□ The issues require the guidance of the School's Ethics Committee

COMMENTS:

Signed:

Date:

Appendix (AB):
WAI FONG CHUA'S CLASSIFICATION OF ACCOUNTING RESEARCH PARADIGMS

	MAINSTREAM	INTERPRETIVE	CRITICAL
A. Beliefs about Knowledge	Theory is separate from observations that may be used to verify or falsify a theory. Hypothetico-deductive account of scientific explanation accepted.	Scientific explanations of human intentions sought. Their adequacy is assessed via the criteria of logical consistency, subjective interpretation, and agreement with actors' common-sense interpretation.	Criteria for judging theories are temporal and context-bound.
Epistemological			
Methodological	Quantitative methods of data analysis and collection which allow generalisation favoured.	Ethnographic work, case studies, and participant observation encouraged. Actors studied in their everyday world.	Historical, ethnographic research and case studies more commonly used.
B. Beliefs about Physical and Social Reality	Empirical reality is objective and external to the subject. Human beings are also characterised as passive objects; not seen as makers of social reality.	Social reality is emergent, subjectively created, and objectified through human interaction.	Empirical reality is characterised by objective, real relations which are transformed and reproduced through subjective interpretation. Objects can only be understood through a study of their historical development and change within the totality of relations.
Ontological			
Human Intention and Rationality	Single goal of utility-maximisation assumed for individuals and firms. Means-end rationality assumed.	All actions have meaning and intention that are retrospectively endowed and that are grounded in social and historical practices.	Human beings have inner potentialities which are alienated (prevented from full emergence) through restrictive mechanisms. Human intention, rationality and agency are accepted, but this is critically analysed given a belief in false consciousness and ideology.
Societal Order/Conflict	Societies and organisations are essentially stable; "dysfunctional" conflict may be managed through the design of appropriate accounting control.	Social order assumed. Conflict mediated through common schemes of social meanings.	Fundamental conflict is endemic to society. Conflict arises because of injustice and ideology in the social, economic, and political domains which obscure the creative dimension in people.
C. Relationship Between Theory and Practice	Accounting specified means, not ends. Acceptance of extant institutional structures.	Theory seeks only to explain action and to understand how social order is produced and reproduced.	Theory has a critical imperative: the identification and removal of domination and ideological practices.

Source: Adapted from Chua (1986).

Appendix B

Sample interview questions

Introduction:

Thank you for your acceptance and taking the time for the interview on the University's performance measurement and management issues. My name is Javadi, a PhD student of Management Accounting at the University of Southampton, UK. My research is in the performance measurement and management area in a higher education context (more specifically, the way University's performance is measured, managed and reported), which is supervised by Dr Martin Broad. This interview is being conducted as a part of empirical requirement for the subject.

I have requested you to participate in my interview, because I believe that you have valuable experience and knowledge about the University and phenomenon being studied and your views and opinions would greatly help us to reach to the objectives of this research. As it is requested, the interview is not tape recorded. You are also assured of confidentially, because person's names will not be used in the report. Let's begin!

Below are some examples of the questions raised during each interview:

Categories of questions	Questions
Opening	To break the ice and start the conversation: How was your day so far? The weather is so hot these days, isn't it? Did you enjoy the football match last night? Could I find out a little bit more about you, your education and background?
Introductory	What happened you came across with working for the University? How long have you been working with the University and what responsibilities have you had so far? Please tell me a little about the University, its environment, activities and criteria, and history. Could you please describe the size and structure of the University?
Transition	Describe what you understand with the term performance. What do you know about organisational performance? Do you know what performance management is? Can you describe what do you consider as performance measurement? Can you provide some examples?

Categories of questions	Questions
	Please explain the University's understanding of performance measurement.
	How does the University interpret performance management?
	How does the University interpret the terms: performance indicator, performance measure, and metric?
	In your opinion, do the above terms – metric, performance indicator, and performance measure, mean the same thing? If not, what is the difference in your opinion?
	How does the University interpret lagging indicators?
	How does the University interpret leading indicators?
	Does the University have a formal organisational performance measurement system (not personnel evaluation but organisation evaluation)?
	Does the performance measurement system measure anything else other than finance? If "yes" please indicate what i.e. human resources, processes, leadership, customers etc. (KPI's, strategic themes or perspectives)?
	If the University has a formal performance measurement system, is it derived from the University's vision, and is it supportive of the vision?
	Is there a hierarchy of measures? In other words, does lower order measures add up to higher order measures?
	What do you think about the importance of caring about the performance and performance measurement in an organisation?
	Please indicate which performance measurement/management system is used by the University? Total quality management (TQM), Benchmarking, (European) Business Excellence Model, Balanced Score Card, Score Cards, Performance Matrix, Performance Prism, Other (Please describe)?
	Please tell me more in detail about the performance measurement system that the University has implemented.
	(Out of the above questions the free flow discussion and the questions that follow changed according to the responses received)
	Is the primary objective of performance measurement to assess individuals and produce reports (transactional) or does it provide other useful professional information for management, control and improvement purposes?
	In your opinion is performance measurement just another word for prestige, an excuse to do more work, or just something every organisation seems to be doing?
	Are there any other reasons/objectives for implementing performance measurement?
	How would you distinguish between performance measurement, evaluation, appraisal, and assessment?
	Have ever been in charge of, or as part of the process of measuring, or evaluating, or assessing performance, of any kind, at the university?
	In your opinion, what the best performance for a University would look like?
	In your opinion is the performance measurement necessary or is it a waste

Categories of questions	Questions
	of time and resources? Do you think you need a basic performance measurement system, or an advance one? Why? Please motivate your answer? Does the University plan to implement a new (any kind of) performance measurement or management system? What are the motivating factors? What information technology (software) do you use to enable the performance measurement processes? Please indicate? Are you as the manager of the department/school/discipline/faculty part of the executive performance measurement and management team? Is there any independent performance measurement/management unit within the University? How would the University or employees know if they are delivering what they are supposed to deliver? What are the University's expectations/requirements for performance Measurement? What are your own expectations/requirements for performance Measurement? Is the performance measurement of the University based on scorecards i.e. BEM, BSC and other? What KPI's (Key performance indicators and areas, performance measures, strategic themes, perspectives) are captured in the process of performance measurement? (Finance, students, research, learning, quality, Employees etc.) Can you measure the success or lack of success of the University, and how do you measure it? Which indicators or measures you used, or using, for assessment or measurement purposes? Tell me more about your department What is your attitude toward the University?
Key	As a manager what short-term and long-term vision have you set up for your department/school/discipline/faculty? How does this vision correspond with the University's vision? Is a known performance measurement/management system such as BEM (Business excellence model), BSC (Balanced scorecard) or any other used in the performance management of universities of higher education institutions? How do you measure your department/school/discipline/faculty's performance? Please list what you think should be measured in the performance measurement within the University? Do you think why University needs to have a performance management system?

Categories of questions	Questions
	Has the implementation of a performance management system at the University been successful or not? Please give your reasons.
	What are the driving or restraining factors in implementation of the performance management system?
	How does the University view its employees? Are they seen as inherently productive people?
	How do you believe the University wants it staff to behave toward each other?
	How does the University treat its personnel?
	How does the University decide on its important goals?
	How would you describe the University's organisational culture?
	What tools does the University use to attain its goals?
	How did the University monitor performance in the past?
	How will the University monitor performance in the future?
	How does the organisation develop consensus? How this affects the University's ultimate performance?
	Do the performance measures add to a higher order level measure i.e is there a hierarchy of performance measures? Please indicate.
	Does the performance measurement system of the University have lagging and leading indicators? Please indicate.
	In your opinion, what are the University's strengths, weaknesses, and boundaries?
	How does the University reward and punish performance?
	Who makes the final decisions on important issues within the University?
	How do you measure your staff's performance in your department/school/discipline/faculty? Can you give some examples?
	Do you have any performance standards established in your department/school/discipline/faculty? Can you give some examples?
	Is your department/school/discipline/faculty relied on financial and non-financial performance measures?
	Can you describe competitive priorities in universities as general , and your University, in particular?
	Can you tell me what happens when you observe discrepancies between actual and expected performance in your department/school/discipline/faculty?
	In your opinion, are "benchmarking" performance measures required?
	Do you think leading indicators (drivers of performance) are required/necessary?
	What are the key objectives that you believe are central to the University's overall current/future performance, and how does the University's?
	What strategies and plans has the organisation adopted and what are the

Categories of questions	Questions
	processes and activities that it has decided will be required for it to successfully implement these? How does it assess and measure the performance of these activities?
	What level of performance does the University need to achieve its objectives and how does it go about setting the appropriate performance targets for them?
	What rewards will managers (and other employees) gain by achieving the performance targets (if exist)?
	What are the information flows (benchmarks) that are necessary to enable the University to learn from its experience, or from other sources, and to adapt its current performance in that light?
	Can you tell me at what levels do you measure performance?
	Do you have a set of indicators or measures you use? How do use them?
	Do you directly evaluate the performance of your department/school/discipline/faculty? How is the mechanism?
	Do you use comparisons of actual and budgeted expenses in evaluating the performance of your department/discipline/faculty?
	Do you have such a performance report that I could look at?
	Do you use non-financial, quantitative or qualitative performance measures in evaluating the performance of the department/school/discipline/faculty?
	Focusing on the budget and actual cost comparisons, how do you develop cost targets for use in these performance reports?
	Do you have access to external information about performance in e.g., other departments or faculties within the University or other universities?
	Do you use this external information in developing your performance system? can you describe how this is done?
	Is your performance measurement system integrated with any other system(s) in the University?
	Do you perceive any conflicts between different types of performance measures?
	In your opinion, is there any conflict between efficiency and quality?
	What is the first (lowest) management level that reports on performance in your department/school/discipline/faculty?
	Does he (she) also report on performance against non-financial targets?
	What happens when you become aware that the performance is not on target?
	Are you accountable to any department, organisation or third party?
	Are you responsible (Do you usually respond) to unfavourable variances in your budget or performance? If yes, to whom? What is your most typical response?
	What are other benefits do your performance measurement and reports have for you, other than as a basis for decision making or corrective action?

Categories of questions	Questions
	What do you see as the major benefits of such system and reports to you and other internal/external stakeholders?
	Does the University attract top students in comparison to other universities? Why?
	Can you identify particular strengths in your performance measurement system? What parts of the system? Why are the strengths?
	Have you identified any aspects of the system (process) used to measure University's performance which need to be changed or improved? What parts of the system? What sorts of improvements?
	Are you aware of any potential adverse consequences of the way you measure performance across the University? What sorts of consequences? How significant are they?
	What impact does the University's structure have on the design and use of its performance management system? How does it influence and how is it influenced by the strategic management process?
	What are the University's key performance indicators and measures deriving from its objectives, key success factors, and strategies and plans? How are these specified and communicated and what role do they play in performance evaluation?
	In your idea, what level of performance does the University need to achieve for each of its key performance measures, how does it go about setting appropriate performance targets for them, and how challenging are those performance targets?
	What processes, if any, does the University follow for evaluating individual, group, and organisational performance? Are performance evaluations primarily objective, subjective or mixed and how important are formal and informal information and controls in these processes?
	Are you using, or have you ever used one of the popular performance measurement systems, such as; BSc, performance prism, etc. ? Why?
	Do you have any requirements by law (rules/regulations) to measure and report your performance?
	Can you describe your satisfaction with the current performance measurement system/situation.
	How do you motivate the staff in your department/school/discipline/faculty? Can you give some examples?
	What according to you constitutes performance measurement and management? Can you give some examples from your own experience?
	What efforts have you made to development of your current performance measurement system in your department/school/discipline/faculty? Can you give some examples?
	How do they analyse the quality of performance? What forms of measurement are used?
	How do you reward high performance? What action do you take in cases of poor performance?

Categories of questions	Questions
	Do they use different approaches for different staff, different disciplines or different levels?
	What decisions have been made about you by the University which you did not agree about? How was this decision explained to you? How did you feel about the explanation?
	How does the University make sure measures and KPIs are related to its objectives?
	How does the University measure goals that are vague or ambiguous or seemingly immeasurable?
	Where do you find really meaningful measures and KPIs that are relevant and feasible to measure?
	What are the best things that University can do to get people engaged in measuring performance?
	In terms of expenses, how can the University reduce the cost and complexity of implementing performance measures?
	Can any employee easily communicate, understand, and importantly apply performance feedback to their everyday work ?
	Whose responsibility is performance measurement?
	How are academic and non-academic staff evaluated for their performance?
	How relevant and important is the University to its stakeholders?
	To what extent is the University financially sustainable?
	How effective is the University in working toward its vision and mission?
	To what extent does each of the internal and external factor in the environment affect the University's performance?
	How does the current incentive system encourage or discourage performance by the personnel of the University?
	How does administrative and legal environment affect the University?
	How does socio-cultural environment affect the University?
	How does political environment affect the University?
	How does economic environment affect the University?
	How does stakeholder environment affect the University? How do they support the University?
	What resources do you think are needed to set up a new performance measurement system?
	When setting up a new performance measurement system, who do you think are the key people involved?
	Once a new performance measurement system is in place, what are the key factors that make it successful (does it deliver what it is supposed to deliver)?
	What are the problems that can arise?

Categories of questions	Questions
	How is the University affected by the environment? How is the University affected by the? Do you, or does the University have, any performance measurement system? What exactly do you mean by…? Who, exactly, wanted this situation? How do you think that the performance will be improved? Do you think there are any other factors which affect the University's performance? Can you describe the circumstances in more detail? Can you elaborate a little more on this? Do you have any evidence or proof of your claim? Can you give me an example of your claim? How do you see the University's future? Why?
Ending	What are motivating factors which enhance the University's performance? What are the main factors affect the University's overall performance? Do you think if there is anything you would like to raise, please feel free to tell them. Do you have any comments or questions? Are there any other points that you would like to add? Did we miss anything? Thank you for your time and patience.

Appendix C

Open Category

Concept	Open category	
• Performance evaluation (measurement) • Appreciation the good job • Efficiency of performance • Effectiveness of operations • Bureaucratic management style • Self-monitoring by employees • Expectation on financial performance • Reward / Promotion system (lack of) • Intrinsic Rewards • Foresight / wisdom • Discretionary practices • Approach • Individual and organisational discipline • Fairness of evaluation system and procedures • Incentive to employees • Reward (compensation system) • Staff's self-development Assessment • Good performance • Performance related issues • Formal reports • Assumption on good management • Meeting educational quality standards • Mandatory practices • Education quality required • Quality assessment	**1. Evaluation policy (Performancing)**	
• Financial internal control environment • Benefiting from accrual accounting system • Need for modern accounting system • Short-term (annual) funding • Restricted funding • Spending review processes • Internal control • Keeping records of tangible assets • Use of indicators (financial and non-financial) • Research projects income generated • Internal audit • Integrity in financial operations • IT skills required in job • New accounting system • Lack of enough staff	**2. Accounting system**	
• Board of trustees • Administrative board • Institutional steering committee • Institutional coordinators	**3. Governance**	

Concept	Open category	
• Administrative board • Administration structure • Managerial discretion		
• Enforcement of legal rules • Change resistance • Personal relationships in negotiations • Stakeholders requirements • Power struggle in relationships • Requirements to report to stakeholders • Financer as key stakeholder • Higher education as key stakeholder • Stakeholders conflict of interests • Physical Movement (by force) • Meeting the established rules and regulations • Necessity to comply with external bodies criteria set • Resource dependency • Ability to make independent decisions	**4. Stakeholders' expectations**	
• As a mean to observe rules and regulations • Use of experience • Budget constraints • Budget pressure • Financial health expected • Top-down budgeting procedure • Use of budgeting for compliance • Budget as an internal control tool • Budgeting as the most important part of accounting system • Not efficient participative budgeting • Budgeting as a main tool of accountability • Power of budget in negotiations • Financial resources diversification • Power to go beyond the budget limits • More transparency required • Old fashioned static budgeting system • Managing limited resources • New budgeting system	**5. Budgeting practices**	
• Support from top management • Agreement among senior management on operations • Commitment from top managers • Organisational (vs. personal) commitment • Systematic management attitude • Meeting obligations • Organisational health • Operating within limits	**6. Organisational assurance**	
• Alignment of departments • Goal Divergence • Logrolling between departments • Mutual Cooperation and collaboration • Poor communication • Organisation as a unit		

Concept	Open category	
• Open sharing and communication • Effective Cooperation, coordination and communication • Logical decision making • Effective communication of strategy • Strategy on paper (in theory) • Over-night made decisions • Systematic approach vs. discretionary (personalized decisions) • University policy • Lack of Long term planning • Comprehensive planning • Effective communication of strategy • Team working • Communications between sections	**7. Strategic planning (Strategising)**	
• Expertise • Role of employees • Human resources (poor vs. rich) • Staff training and morale • Uneducated employees • Innovativity • Shortage of highly skilled people • Contractual (vs. permanent) staff • Creativity • Lateral thinking • Conflicts • High turnover of personnel • Missing key staff • Rapid change in top level executive academics	**8. Manpower (Human Resources)**	
• Uncertainty (internal-external-environmental) • Instability imposed from the critical environment • High volatile environment • Elections problems raised • Chaos raised from inconsistency • Confusions due to rapidly changing rules • No improvement in situation • Rapidly changing environment • Fluctuations • Getting worse • Not efficient economy • Political environment • Environmental and social concerns • National level planning situation • Non-financial disfunctionality • Need for consistency • Current challenging situation • Country's culture • Regional and International threats • Demand from outside the country • Increased financial pressures	**9. Surrounding Environment**	

Concept	Open category	
• Exploitation for personal gain • Employee (work) engagement • Personal priorities (vs. institutional) • Organisational priorities • Form over substance	**10. Preference**	
• Use of financial statements for reporting • Defending external audit report in general assembly • Internal audit unit • Responses to tax and insurance enquiries • Supreme audit court (SAC) • Ministry of Science, Research and Technology (MSRT)	**11. Accountability**	
• Compete to be survive (vs. champion) • The way resources are used • Optimization of actions • Competitiveness (lack of) • Low Productivity due to no competition • Academic attitude • External barriers • Other universities • Competition (nationally/ internationally) • Globalisation / internationalisation • Government support and investment in research	**12. Competitiveness**	
• Individual (vs. organisational) values • Ethics • Superiority • Ethical responsibilities • Expectation on equal rights • Assumption on honesty • Bored / fed up • Trust in each other • Value of training • Hypocrisy (two face people) • Having sincerity / good faith • Religious related Individual beliefs • employees' participation	**13. Values**	
• Hierarchical structure of the organisation (vs. matrix–networking) • Teaching and research funding structure • Bureaucracy and too much paperwork • Troubleshooting • Autonomy (lack of) • Independence (lack of) • Frustrating paperwork system • Limitations	**14. Organisation structure**	
• Cultural barriers • Differences in people (cultural background) • Cultural divergence (across faculties–cities) • Team working difficulties • Lack of knowledge	**15. Organisation's culture**	

Concept	Open category	
• Tribal implications and arguments • Refusing new systems by old staff		
• Appropriate IT facilities • Effective use of Technology • Infrastructure capacity • Internet usage across the university • Internet coverage • Physical resources • Caring for the website • Maintenance and continuous upgrade of IT tools • Using up-to-date hardware and software • Online information	**16. Technical and Technological**	
• Motivation (lack of) • Routines • Low level salaries • Treating all employees equally (fairly the same) • Self-consideration • Motivation (self-motivation-lack of motivation) • Enthusiasm and contentment (lack of) • Educational collaboration with international universities • Human resource performance measurement • Job satisfaction	**17. Motivation**	

Appendix D

Main category, core category and emergent theory

Open category	Main category	Core category	Emergent theory
11. Accountability 13. Governance 5. Budgeting practices 4. Stakeholders' expectations	**Stakeholders' concerns**	**Conformance**	Progression - Regression Performance
14. Organisation structure 2. Accounting system 1. Evaluation policy (Performancing) 15. Organisation's culture 6. Organisational assurance 3. Values	**University's commitment**		
7. Strategic planning (Strategising) 8. Manpower (Human Resources) 16. Technical and Technological 10. Preference	**Inconsistency**	**Instability**	
12. Competitiveness 9. Surrounding environment 17. Motivation	**Uncertainty**		

Appendix E
Grounded Theory Terminology

The following terminologies, arranged in alphabetical order, are adapted from Strauss and Corbin (1998).

Analytic tools: Devices and techniques used by analysts to facilitate the coding process (p.87)

Asking questions: An analytic device used to open up the line of inquiry and direct theoretical sampling (p.73)

Axial coding: The process of relating categories to their subcategories, termed "axial" because coding occurs around the axis of a category, linking categories at the level of properties and dimensions (p.123)

Categories: Concepts that stand for phenomena (p.101)

Central category: Sometimes called the core category, represents the main theme of the research. Although the central category evolves from the research, it too is an abstraction. In an exaggerated sense, it consists of all the products of analysis condensed into a few words that seem to explain what 'the research is all about" (p.146)

Coding: The analytic processes through which data are fractured, conceptualised, and integrated to form theory (p.3)

Concepts: The building blocks of theory (p.101)

Conditional/consequential matrix: An analytic device to stimulate analyst's thinking about the relationship between macro and micro conditions/consequences both to each other and to process (p.181)

Diagrams: Visual evidence that depict the relationship among concepts (p.217)

Dimensions: The range along which general properties of a category vary, giving specification to a category and variation to the theory (p.101)

Making theoretical comparisons: An analytic tool used to stimulate thinking about properties and dimensions of categories (p.78)

Memos: The researcher's record of analysis, thoughts, interpretations, questions, and directions for further data collection (p.110)

Methodology: A way of thinking about and studying social reality (p.3)

Methods: A set of procedures and techniques for gathering and analysing data (p.3)

Microanalysis: The detailed line-by-line analysis necessary at the beginning of a study to generate initial categories (with their properties and dimensions) and to suggest relationships among categories; a combination of open and axial coding (p. 57)

Macro conditions/consequences: Those that are broad in scope and possible impact (p. 181)

Micro conditions/consequences: Those that are narrow in scope and possible impact (p. 181)

Open coding: The analytic process through which concepts are identified and their properties and dimensions are discovered in data (p. 101)

Phenomena: Central ideas in the data represented as concepts (p. 110)

Process: Sequences of action/interaction pertaining to a phenomenon as they evolve over time (p. 123)

Properties: Characteristics of a category, the delineation of which defines and gives it meaning (p. 101)

Range of variability: The degree to which a concept varies dimensionally along its properties, with *variation* being built into the theory by sampling for diversity and ranges of properties (p. 143)

Research problem: The general or substantive area of focus for the research (p. 35).

Research question: The specific query to be addressed by this research that sets the parameters of the project and suggests the methods to be used for data gathering and analysis (p. 35)

Selective Coding: The process of integrating and refining the theory (p. 143)

Sensitivity: The ability to respond to the subtle nuances of, and cues to, meanings in data (p. 35)

Structure: The conditional context in which a category (phenomenon) is situated (p. 123)

Subcategories: Concepts that pertain to a category, giving it further clarification and specification (p. 101)

Technical literature: Reports of research studies and theoretical or philosophical papers characteristic of professional and disciplinary writing that can serve as background materials against which one compares findings from actual data (p. 35)

Theoretical comparison: An analytic tool used to stimulate thinking about properties and dimensions of categories (p. 73)

Theoretical sampling: Data gathering driven by concepts derived from the evolving theory and based on the concept of 'making comparisons,' whose purpose is to go to places, people, or events that will maximize opportunities to discover variations among concepts and to identify categories in terms of their properties and dimensions (p. 201)

Theoretical saturation: The point in category development at which no new properties, dimensions, or relationships emerge during analysis (p. 143)

Theory: A set of well-developed concepts related trough statements of relationship, which together constitute an integrated framework that can be used to explain or predict phenomena (p. 15)

The paradigm: An analytic tool devised to help analysts integrate structure with process.

Appendix F

Samples of Reporting forms

The way participants' response to the questions	**Understanding on the question:**
• Knowledgeable (**K**) • Confident (**C**) • Unsure (**US**) • Quiet (**Q**) • Active (**A**) • Interested (**I**) • Neutral (**N**)	• Ask for more clarification (**MC**) • Not understand (**NU**) • Not clear (**NC**) • Understand (**U**) • Need to rephrase (**R**)

	Brief Summary/Key points/participants responses	**Notable Quotes**	**Body language**	**interest**
P1				
P2				
P3				

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