

**STUDENT ENROLMENT PLANNING IN PUBLIC HIGHER
EDUCATION: A SOUTH AFRICAN CASE STUDY**

BY

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THESIS

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DECLARATION

I hereby declare that this thesis is the result of my own investigation and research and that it has not been submitted in part or in full for any other degree or to any other University.

Thirumurthie Shunmugham Pillay

**DEDICATED TO MY LATE PARENTS, SHUNMUGHAM and
MAHADEVIAMMAL PILLAY**

This thesis is every bit as much your accomplishment as it is mine.

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Abstract

In South Africa, the transformation of public higher education has placed much emphasis on the accountability and performance of individual institutions. Various indicators are used to assess institutional performance, as is the case internationally. Examples of such indicators include teaching and learning, research outputs, graduate employability, financial sustainability and productivity and the use of resources.

This case study which is predominantly qualitative, examined:

- i) Performance by a selected South African University of Technology, the Durban University of Technology (DUT), in specific performance indicators as determined by policy on student enrolment planning. Student enrolment planning is an important strategy adopted by government to address a number of distortions in the higher education system which had been developed over a number of years within the ideology of apartheid.
- ii) The measures taken by the institution to give effect to the policy.

The case study utilised multiple methods of data collection within three units of analysis. The three units of analysis of the case are:

- Unit of analysis One: The practices used at the DUT for marketing, student recruitment, student selection and admission to achieve the input indicators of the student enrolment plan.
- Unit of analysis Two: implementation strategies for meeting the output (success) indicators of the plan.
- Unit of analysis Three: The problem of low student retention.

The original contribution made by this research study is that it provides detailed insight into the implementation of policy of student enrolment planning, using the Durban University of Technology as an example. In so doing, the researcher has identified critical areas that impact on student enrolment planning in South Africa, as well as specific weaknesses in the implementation of the policy at the DUT.

A part of the study's findings is that the DUT is well-placed to meet the performance indicators of the enrolment plan. However, the addressing of weaknesses in the areas of student selection, marketing and recruitment could improve the DUT's ability to exert more influence over its enrolments. The study determined that the problem of low student retention is a factor that threatens the DUT's throughput and graduation rates.

Broad and specific recommendations are made for implementation, including the adoption of the organisational framework of enrolment management supported by institutional research.

GLOSSARY OF ACRONYMS

AsgiSA	Accelerated and Shared Growth Initiative for South Africa
CHE	Council on Higher Education
CHED	Centre for Higher Education Development
CHET	Centre for Higher Education Transformation
CA	Corporate Affairs
CAO	Central Applications Office
CTP	Committee of Technikon Principals
DoE	Department of Education (up until April 2009 had included higher education)
DoHET	Department of Higher Education and Training (newly-created department for higher education)
DUT	Durban University of Technology
DVC	Deputy Vice-Chancellor
ED	Executive Director
esATI	Eastern Seaboard Association of Tertiary Institutions
ESBE	Engineering Science and the Built Environment
FTE	Full-Time Equivalent
HEQC	Higher Education Quality Committee
HE	Higher Education
HEI	Higher Education Institution
HESA	Higher Education South Africa
HBI	Historically Black Institution
HOD	Head of Department
HRD	Human Resources Development
HWI	Historically White Institution
ITSS	Information Technology Support Services (a support dept. at the DUT)
JIPSA	Joint Initiative on Priority Skills Acquisition
KZN	KwaZulu-Natal
MIS	Management Information Services (a support dept. at the DUT)
MTEF	Medium-Term Expenditure Framework
NCHE	National Commission on Higher Education
NFF	New Funding Framework
NPHE	National Plan for Higher Education
NPM	New Public Management
NSC	National Senior Certificate
NSFAS	National Student Financial Aid Scheme
OECD	Organization for Economic Co-operation and Development
RSA	Republic of South Africa

SAPSE	South African Post-Secondary Education
SATAP	Standardized Assessment Tests for Access and Placements
SAUVCA	South African Universities Vice-Chancellors Association
SC	Senior Certificate
SET	Science, Engineering and Technology
SIM	Student Integration Model
SR	Student Recruitment
UKZN	University of KwaZulu-Natal
UNISA	University of South Africa
UoT	University of Technology
VC	Vice-Chancellor
WIL	Work-integrated learning

Definition of terms used in enrolment planning

Head count student enrolment	A head count enrolment total refers to the actual, physical number of students, and includes full-time as well as part-time students. The term “unduplicated head count enrolments” is sometimes used in relation to funding formula calculations: if a student is registered for two programmes in one year, the more advanced programme is counted. If the programmes are at the same level, the first alphabetically is used.
Full-time equivalent (FTE) enrolments	An FTE student enrolment takes as a unit a student who follows a typical full-time curriculum. A student who has failed and returns to repeat a quarter of a full-time curriculum is counted as 0.25 of an FTE enrolment.
Enrolment shape by major field of studies	This refers to the planned distribution of enrolments into the following broad major fields : Science &Technology (SET), Business &Technology, and Humanities and Education
Enrolment shape by qualification type	This refers to the planned distribution of enrolments into specific types of qualifications, for example, at the DUT: undergraduate diplomas, undergraduate degrees, postgraduate qualifications below masters, and masters and doctorate degrees.
Graduation rate	This is a percentage derived from the graduate total divided by the total of all enrolled students. The rate could also be calculated for a programme, qualification or even a qualification type.
Retention rate	The retention rate for a particular programme (or group of students registered for a programme) is the proportion of students registered in year n that re-registers in year n+ 1. Ideally, the re-registration would be for a higher level of study, and not repeats arising from failure.
Success rate	This term is most often used in the context of performance in specific subjects, rather than that of a programme. It refers to the percentage of FTE passes in relation to the total FTE subject registrations.
Throughput rate	This is calculated by tracking a cohort of students registering for the first time in a given year, and completes the qualification in regulation time. In DUT’s case, this is mostly three years.
Dropout	This refers to the proportion of students who drop out of a qualification at an institution each year. An internal distinction is often made between those who drop out and are in good academic standing, and those who are academically excluded because of poor performance. In addition, many students drop out because of financial exclusions viz. inability to pay.
Stopout	This refers to students who register for a qualification in year n, do not return in year n+1, but return in year n+2 or even later.

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CHAPTER ONE

INTRODUCTION

1.1 Background

In South Africa, the transformation of public higher education (HE) has placed much emphasis on the accountability and performance of individual institutions. Various indicators are used to assess institutional performance, as is the case internationally. Examples of such indicators include teaching and learning, research outputs, graduate employability, financial sustainability and productivity and the use of resources. This study examines:

- i) Performance by a selected South African University of Technology in specific performance indicators as determined by policy on student enrolment planning. In South Africa, student enrolment planning is an important strategy adopted by government to address a number of distortions in the higher education system which had been developed over a number of years within the ideology of apartheid.
- ii) The measures taken by the institution to give effect to the policy.

The specific performance indicators referred to in i) above are:

- Negotiated input enrolment targets which include headcount enrolments, full-time equivalent (FTE) enrolments, “enrolment shape” by qualification type and enrolments by major fields of study, viz. Science, Engineering and Technology (SET), Business and Commerce, as well as the Humanities.
- Anticipated output indicators viz. success rates, throughput rates and graduation rates.

The “measures” referred to in ii) above are related to the major factors that have been identified by the researcher to impact on the attainment of the above performance

indicators. The development of governmental policy that forges links between the output targets of student enrolment planning (e.g. success rates and graduate outputs) and the funding of public higher education institutions is a deliberate attempt by government to steer institutions towards predetermined goals or “indicators” of success. From the emphasis placed in recent years on such steering mechanisms, it is evident that the transformation of the size and shape of higher education through student enrolment planning has become a key imperative for government.

Alexander (2000:411) advises that the trend of steering public institutions through funding has commenced in many parts of the world since the global economic crisis of the late 1970s and early 1980s, when governments were compelled to review all activities funded by public monies. He adds that societies were going through an “age of disenchantment” with the higher education sector and there were increasing calls for greater accountability from higher education. Strehl, Reisinger & Kalatschan (2006:25) state that one of the most noteworthy reform measures introduced within the international public sector in the last two decades has been the adoption of performance-based funding. They assert that this measure is considered necessary to governments in order to counter the shortcomings of traditional input-oriented funding, which does not address the need for result-oriented management of public institutions.

The application of performance based funding to the public higher education sector appears to have arisen as a result of a number of inefficiencies that became apparent to governments. For example, the high level of growth in the numbers of students entering public higher education in many countries, referred to as “massification”, was not necessarily accompanied by high levels of success. Failure and dropouts of students, which affect high level skills targets and national human resource planning, have placed a huge strain on limited state resources. Thus, governments around the world have challenged higher education institutions to improve performance by using

funding as a steering mechanism. Such funding formulae and frameworks are designed to reward success and penalise failure. Performance-based funding seeks to link funding to measures of outputs or outcomes rather than to inputs only, and is therefore regarded as one of the principal innovations in higher education funding.

An essential objective of enrolment planning is to increase graduate output. In South Africa, graduate output is emphasised in the National Plan for Higher Education (NPHE) (RSA, 2001a) for its importance to national human resource development, as well as for achieving the goals of development and equality. Furthermore, improving graduate output in South African HE “merits foregrounding as a central focus of the sector’s work” (Council on Higher Education (CHE), 2007:6).

A part of enrolment planning is concerned with the setting of specific input targets for individual institutions in the areas of major fields of study, qualification types and full-time equivalents (FTEs), and in this way attempts to ensure that the sector as a whole responds to national priorities. However, enrolment planning does not only involve the setting of targets for the intake of students. It also deals with plans by the institution to achieve specific “output” performance indicators such as increased graduation, success and throughput rates. Further, student enrolment planning necessitates measures being taken by the institution to improve student retention which is a problematic area for the sector as a whole, as the meeting of output targets is negatively affected by students prematurely dropping out of studies before completing a qualification. Through the meeting of negotiated enrolment planning targets, it is intended that issues of quality are addressed within institutions.

It is important to point out that the term “student enrolment planning” in the South African context is complicated in that the use of the word “planning” appears to minimize the “enrolment management” role which is vital in order for institutions to achieve the output targets of the plan. For example, institutions are required to institute the necessary mechanisms to enhance success of students and to ensure their retention.

The international term of “enrolment management” which is defined and explained in this study, would include these mechanisms. In the South African policy context, student enrolment planning implies the inclusion of the overarching aspect of enrolment management and its related strategies.

Policy development in the area of enrolment planning was pursued by the Department of Education (DoE) following the release of the 1997 *Education White Paper 3: A framework for the transformation of higher education*. The national planning process that was undertaken to develop a policy on student enrolment planning has been systematic and purposeful, both in the legislation and official reports that were produced to steer the process, as well as in the deliberations that have occurred between government, the higher education sector and individual institutions. The process has also been aligned, at least in theory, with the need to close important gaps in the skills and qualifications needed for national development. However, the 2006 initiatives for the Accelerated and Shared Growth Initiative for South Africa (AsgiSA) and the Joint Initiative for Priority Skills Acquisition (JIPSA) have thus far not been linked to higher education planning in a meaningful way. Policy that compels individual institutions to implement negotiated student enrolment plans and to improve their outputs has only recently been concluded with the release of the *Ministerial Statement on Student Enrolment Planning* in November 2007 (RSA, 2007).

This research study is conducted within such an individual South African higher education institution, the Durban University of Technology (DUT), to examine in detail how the institution deals with such national policy goals. The case study builds upon the findings of a limited scope research project on enrolment planning at the DUT, undertaken in 2008 by both the researcher and the promoter of this doctoral thesis. The project was funded by a grant awarded by the Higher Education Quality Committee which had obtained financial support from Finland as part of the South

Africa-Finland Cooperation Programme. The project report “Enrolment Planning and its Implementation: The Durban University of Technology Experience” (Pillay and Wallis: 2009) was submitted to the HEQC and key individuals at the DUT for discussion.

1.2 Statement of the problem

The researcher conducted an exhaustive review of the legislation passed by the South African government to steer higher education towards greater efficiency, in addition to a study of scholarly articles on such steering in the national and international contexts. It became apparent from such studies that higher education systems throughout the world are grappling with the problems of poor graduate output, graduate unemployability and high dropout rates of students from institutions, and hence governments were taking measures to ensure that higher education institutions are responding effectively to national needs.

Through the literature review, the researcher also became aware that a strategic framework that gives effect to the highly respected international practice of “enrolment management” could be of value to South African higher education institutions in order to deal with the challenges posed by the enrolment planning policy. Enrolment management has been referred to as “an institution-wide, systematic, comprehensive, research-driven system designed to locate, attract, and retain the students the institution wishes to serve” (Noel-Levitz, 2001:8). The organising concept of enrolment management, however, does not feature strongly in institutional practices in South African higher education, and further, is not the subject of much research in higher education or public management, as a survey of the literature revealed.

The central proposition of this research study is that the successful meeting of enrolment targets at the Durban University of Technology (DUT) could be enhanced

by the institution having an effective institutional planning and coordinating mechanism/ framework, as well as related strategies for the achievement of these targets. Through such coordinated strategies, it could be demonstrated that reasonable and deliberate attempts are being made by the institution to give effect to the implementation of a policy. Such a framework will serve to ensure:

- The successful selection and placement of students at first time entering level, a high percentage of whom are likely to persist until graduation.
- That the DUT's enrolment planning strategy includes the meeting of enrolment targets at subsequent levels of study.
- That there is a coordinated strategy for the meeting of the success indicators (throughput, success and graduation rates) and for decreasing the University's dropout rate.

The research problem, then, is to provide a critical evaluation of the DUT's implementation strategy for student enrolment planning, against the backdrop of critical factors affecting performance of the higher education sector as a whole, such as entry level students emerging from an unequal secondary school system that does not adequately prepare them for tertiary education, the ongoing problems of high dropout and failure rates at tertiary institutions, and the apparent absence of systematic enrolment management procedures at the institution.

1.3 Rationale for the study

A report by the Centre for Higher Education Transformation (CHET) states that policy implementation is of particular importance in South Africa, where the transition to democratic rule in 1994 was accompanied by a "stream of policies in all areas, including higher education" (CHET, 2003:3). The report also makes the important observation that producing policies was "far easier than putting it into practice or implementing it in a social reality that is messy and complex" (CHET, 2003:3). A rationale for the study is that in the South African student enrolment planning initiative, there is much emphasis on the achievement of results, but not on *how* those

results are achieved, or *why* results are achieved or not. At the end of each enrolment planning cycle, the performance of institutions in areas such as success rates, graduation rates and headcount enrolments are placed in a report by the Department of Higher Education and Training (DoHET). Targets are usually revised, based on these performances. The specific challenges of individual institutions and mechanisms to deal with these do not appear to be reviewed. An instrumental case (Stake, 2005:445) such as this provides those very insights, and has the potential for producing general knowledge on how to (or how not to) conduct successful public sector reforms.

This in-depth case study of how the policy on student enrolment planning is implemented within a specific public higher education institution, the Durban University of Technology (DUT), is therefore of much significance. Its significance largely relates to the importance attached to the success indicators that have been determined for the higher education sector as a whole. While a detailed instrumental case is valuable for the wealth of knowledge and insights that it conveys, which could lead to theory development, a case such as this also has the potential for being part of a *collective case* study, which is “not a study of the collective”, but rather instrumental study of individual cases extended to other cases (Stake, 1998:88).

A case study of how a public higher education organisation has proceeded with the challenge of meeting performance indicators is also of significance to the academic discipline of Public Administration and the practice of Public Management. The study could contribute to the development of “Implementation Theory”, which, as Schofield and Sausman (2004:235) indicate, provides an understanding of “how and why public policy is put into effect”. Within the paradigm of the New Public Management (NPM) which emerged at the end of the twentieth century, and which has been referred to as “one of the most striking international trends in public administration” (Hood, 1991:185), this case study on policy implementation is highly relevant. The new approach to public management requires that far greater attention be paid to the

achievement of results, that there is greater emphasis on the clear setting of organizational and personal objectives, which in turn would enable measurement of achievements through performance – based management (Wholey, 1999: 251).

1.4 Research objectives

The primary objective of this case study is to provide a critical analysis of how the Durban University of Technology (DUT) proceeds with the implementation of a specific government policy (Student Enrolment Planning for Higher Education). In so doing, it examines and explains the plans, processes and strategies undertaken by the institution to give effect to that policy, and makes broad and specific recommendations for improvements that could be made for the attainment of enrolment planning goals. The case can thus be described as an explanatory one, and can be said to have an evaluative purpose.

Another objective is to assess the extent to which the DUT is poised, in the year 2008, to meet the enrolment targets of the plan. This is done by providing a “snapshot” of the DUT’s locus on the trajectory towards achieving the various indicators of the institution’s enrolment plan. It has to be emphasised that the enrolment planning targets, as presented in Chapter Two, are modest ones, taking into account serious systemic and institutional inefficiencies in South African higher education. The enrolment planning indicators can also be described as realistic ones, taking into account the historical performance of the institution. They do, however, represent clear targets for an improvement of past performance. Taking the ‘realism’ of these targets into account, the main focus of this study is therefore not on whether these targets are achieved or not, but rather on the “how” – the specific actions taken by the DUT to ensure that the targets are met.

In the wider sense, and as already indicated, the study attempts to critically assess how the DUT subscribes to the practice of “Enrolment Management”, which has been

defined earlier. Enrolment planning as a set of activities would include a range of the DUT's practices including marketing and recruitment, selection and placement as well as attempts to improve its graduation and retention rates.

1. 5 Research Design

1.5.1 The rationale for the use of a single case study

The choice of a single, in-depth case study of how a specific South African public higher education institution (the Durban University of Technology) has proceeded with the implementation of an important policy was a deliberate one, and motivated by several compelling arguments found in literature on case study research. Firstly, with regard to studies on public policy making and implementation, Elmore (1978:24) states that “knowledge of organizations has become a critical component of policy analyses”, and asserts that a clear understanding about how an organization functions would answer the relevant issue of how and why policy implementation is successful or fails. Yin (2009: 8-9), states that in a study such as this, which attempts to seek a deep explanation of “how” and “why” questions, the case study is the preferred method. He also states that the case study has a distinct advantage when:

A “how” or “why” question is being asked about

- *A contemporary set of events, and*
- *Over which the investigator has little or no control* (Yin, 2009: 13).

Another important motivation for the choice of a case study is the fact that there is a substantial body of literature that argues for the use of case studies in the field of public administration. Bailey (1992:52), for example, asserts that “public administration theory could not have been developed as it has without the theory building derived from case studies”. Jensen and Rodgers (2001: 235-236) contend that case studies are vital for knowledge to advance in the field, and that they “satisfy the recognized need for conditional findings and in-depth understanding of cause and effect relationships that other methodologies find difficult to achieve”.

Leedy & Ormrod (2005: 135), in pointing to the value of single case studies, state that researchers focus on a single case because its “unique or exceptional qualities can promote understanding or inform practice for similar studies.” The lessons learned from this case study could inform practice at other higher education institutions or result in an improvement of practices and results at the DUT itself. The study could form the basis of similar case studies at other similar institutions, and, as Leedy & Ormrod (2005:135) suggest, could, through multiple or collective case studies, assist practitioners to “make comparisons, build theory or propose generalizations”.

1.5.2 The embedded single case with multiple units of analysis

Yin’s typology of case study design (2009: 46) is used to illustrate the design of this case. Single cases are categorised into two types: i) the holistic case with a single unit of analysis; and ii) the embedded case design, with multiple units of analysis. Type 1 is essentially a case with a single issue/object/ that is to be studied. Type 2 is also a single case, but with different objects/issues/themes being studied. For example, in a study of a single organisation (the case), a unit of analysis could be the management of human resources, and another could be financial systems. These two types are illustrated graphically in Figures 1 and 2 below (source: Yin, 2009:46).

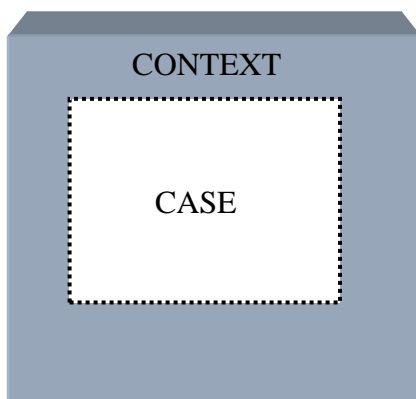


FIG. 1: Type 1 case: Single and holistic

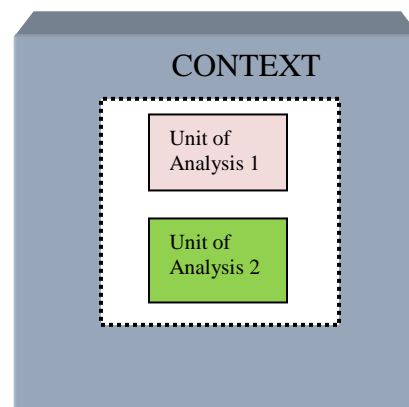
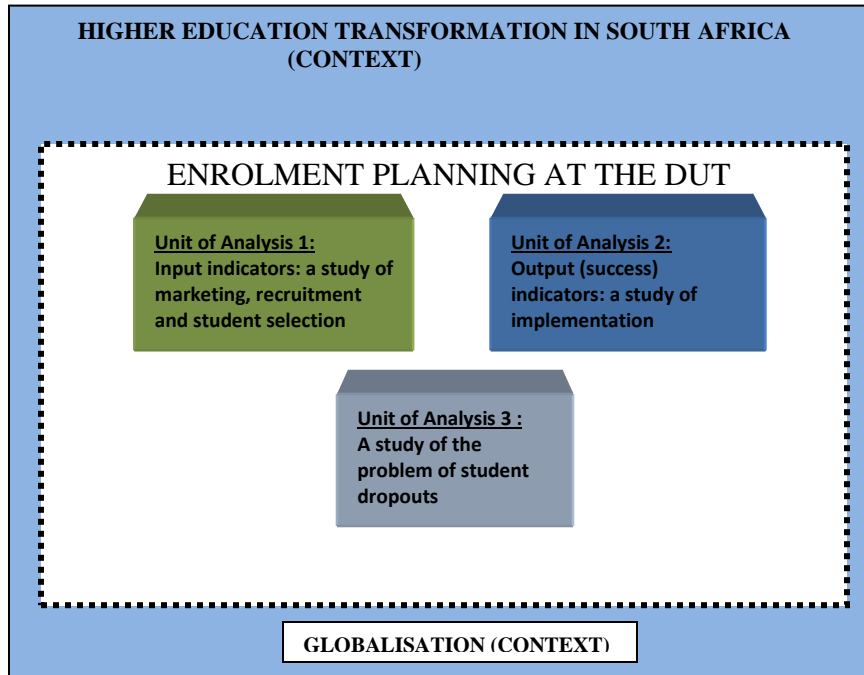


FIG.2: Type 2 case: Single and embedded

The design of this research study is adapted from Yin’s Type 2 (single case embedded design), and is illustrated in Figure 3 below.

Figure 3: Embedded Units of Analysis in the case study of Enrolment planning at the DUT



The concept of “unit of analysis” requires an explanation at this point. According to Yin (2009: 29-30), the definition of what “the case” is poses problems for researchers doing case studies. Case studies are undertaken about individuals, decisions, programmes, the implementation process and organisational change, as examples, and none of these are easily defined as the beginning or end points of the case (Yin, 2009:29). Thus, the definition of the unit of analysis within an organisation to be studied (in this case, the DUT), is important since it serves to clearly delineate the components of the case that will be studied. According to Yin (2009:30), the researcher’s tentative definition of the unit of analysis is related to the way the initial research questions have been defined. In reference to the “how and why” questions posed by this study, the units of analyses are:

- Unit of Analysis One: The practices used at the DUT for marketing, student recruitment, student selection and admission to achieve the input indicators of the student enrolment plan.

- Unit of Analysis Two: Implementation strategies for meeting the output (success) indicators of the plan.
- Unit of Analysis Three: The problem of low student retention.

As illustrated in Figure 3, an important part of the case study design is the context in which the study takes place. The study of enrolment planning at the DUT takes place in the context of higher education transformation in South Africa. Such transformation, as will be shown in the next chapter, has also been shaped by external, global influences as well as by the immediate, pressing local demands for transformation.

1.6 Research Questions

The research questions posed by the study are related to the individual units of analysis described above. Specifically, the questions for each of the units of analysis are:

Unit of Analysis One

- *To what extent is the DUT poised to meet the input targets of the enrolment plan?*
- *How effective is the handling of applications made by prospective students to the DUT through the Central Applications Office (CAO)?*
- *How effective are the DUT's student selection processes?*
- *How effective are the marketing and recruitment strategies used by the DUT to attract the required number of students at first year level that meet and exceed entry requirements?*

Unit of Analysis Two

- *How is the DUT positioned to meet the output targets of the enrolment plan?*
- *How is enrolment planning being effected at the DUT? Specifically, what are the processes, mechanisms and structures used to coordinate the planning and implementation of the policy, and how effective are they?*

Unit of Analysis Three

- *Why do students leave the University prematurely?*
- *What are the present activities of students who have dropped out of studies from the DUT?*
- *Do the dropout students wish to return to the DUT to continue with their studies?*

1.7. Scope of the study/delimitations

1.7.1 Despite there being various benchmarks and indicators used to measure performance of higher education institutions, this study will focus specifically on the benchmarks and targets related to student enrolments, as set by the DoE.

1.7.2 The research findings apply to the DUT in the year 2008.

1.8 Overview of the related literature

The literature review for this case deals with the theoretical issues associated with the case study's research questions. A part of the literature review is also related to the context of the study. For Unit of Analysis One, the literature reviewed shows that there has been resistance to the notion of marketing higher education, although the influences of globalisation have compelled institutions to adopt marketing strategies in order to remain competitive. One of the challenges for higher education institutions, in respect of their marketing practices, is to develop a home-grown, domesticated approach, and not to continue relying on the imported wisdom of the business sector. The concepts of differentiated marketing and market segmentation are specialised approaches to student recruitment, and literature on these concepts is also reviewed. Issues surrounding student selection and the admissions practices at HE institutions also formed part of the literature for Unit of Analysis One.

Since an important part of this study is concerned with how public policy is being used by government to steer the public higher education sector towards specific enrolment goals, a survey of the international literature on policy implementation in public higher education systems was undertaken. The review of literature on the topic of implementation of policy at both the macro level and within institutions was conducted to provide an enhanced contextual understanding of the research topic. In this regard, a number of theories of policy implementation at the macro or systems level are described. With regard to implementation at the institutional level in South Africa, the literature review revealed a clear lacuna. The dearth of implementation literature that makes reference to specific case studies of individual South African HEI's performance relative to government policy goals is clearly evident.

Furthermore, the literature on enrolment management as an organisational concept in South Africa is very limited. Much of the studies and institutional information relating to "enrolment management" practices at colleges and universities are therefore drawn from the United States of America (USA). The review of international literature and institutional documents on student retention and marketing clearly reflects the importance attached to the powerful organisational concept of enrolment management in a number of countries. It is particularly dominant in the USA, where highly structured enrolment practices have become a necessity, given the dwindling financial and public support for higher education institutions, despite calls for greater accountability (Penn, 1999:4).

A part of the literature review deals with the significance of enrolment planning through a discussion of the higher education sector's role in national development through the provision of graduates. It would appear that graduate output is a particularly difficult challenge because of the problem of low retention of students at many higher education institutions. The literature review thus includes a survey of

international and local studies on the problem of student dropouts from higher education.

The context of student enrolment planning in the transformation of higher education in South Africa is a significant part of the study. A part of the literature review thus deals with the local, South African context which has necessitated such a transformation, as well as the global pressures that have impacted on higher education reform in most parts of the world.

1.9 An overview of data collection methods

This case study, which is predominantly qualitative in nature, entailed multiple methods of data collection. The study is located within the interpretative paradigm, and attempts to exemplify the purpose of qualitative research in general, viz. to describe and explain, to explore and interpret, and to build theory. Data collection methods differ in respect of the three Units of Analyses. These are explained fully in Chapter 6.

1.10 Structure of chapters

Chapter 1 demarcates the field of study and outlines the research design and methodology. It includes a statement of the research problem, research questions, research objectives, and serves to provide an overview of the entire study.

Chapter 2 serves to extend the introduction to this study by placing the issue of student enrolment planning in an analytical context. This is achieved through an exposition of the external and local influences on higher education transformation in South Africa. An overview of globalisation and the New Public Management (NPM) and their impact on higher education institutions, as the primary external influences, is provided. In addition, the chapter also describes the local influences, in particular the

distortions of the higher education system as a result of apartheid planning, and the attempts at reform under the democratic dispensation.

Chapter 3 commences with the literature review, and is based on critical issues in Unit of Analysis One that impact on student enrolment planning at the Durban University of Technology. These issues are marketing, student recruitment and student selection and admissions practices.

Chapter 4 continues with the literature review and deals firstly with the significance of graduate output which is the primary objective of enrolment planning. The problem of dropouts from higher education, which is a major factor that impacts negatively on the attainment of enrolment planning goals, forms the next part of the literature review in this chapter. Both South African and international studies on the issue of student retention are explored.

Chapter 5 extends the literature review to theoretical issues concerned with policy implementation at both the macro-level of higher education systems, as well as the micro-level of individual higher education institutions. The macro-level discussion is largely concerned with how reform is brought about within public organisations as a system, with specific reference to higher education systems. The concept of funding as a steering mechanism within a number of theoretical models of policy implementation forms part of the review. At the micro institutional level, the organising concept of enrolment management is discussed as an illustration of how the various interlinked issues of enrolment planning can be dealt with.

Chapter 6 describes in full detail the research methodology used in the study. It addresses the rationale for the case study research design and explains and describes the different methodologies employed in respect of the units of analyses. It includes issues such as the sampling design and procedures, as well as the method of data collection and analysis. Matters surrounding the reliability, validity and limitations of the study are also discussed.

Chapter 7 presents the research findings for the first unit of analysis.

Chapter 8 presents the research findings for the second and third units of analysis.

Chapter 9 makes general conclusions and recommendations arising from the study.

1.11 A brief description of the Durban University of Technology (DUT)

The DUT is a public higher education institution in South Africa, located in the province of KwaZulu-Natal. It is a medium – sized, primarily undergraduate contact institution, and was formed in 2002 through the merger of the ML Sultan Technikon and Technikon Natal. The institution is classified as a “University of Technology”, in terms of South Africa’s differentiation of higher education institutions into Universities, Universities of Technology and Comprehensive Universities. The Universities of Technology emerged from what were previously referred to as “Technikons”. These are primarily diploma-awarding institutions, with overall lower general admission requirements than the traditional universities. The diplomas require three years of full-time study.

The learning programmes at the DUT are offered within the following six faculties:

- Faculty of Accounting and Informatics
- Faculty of Applied Sciences
- Faculty of Arts and Design
- Faculty of Engineering and the Built Environment
- Faculty of Health Sciences
- Faculty of Management Sciences

The university has three campuses, two of which are located in the greater Durban area and one in the Midlands area. The institution has a student complement of approximately 22 000 of which approximately 6000 are first-time entering students.

The vision of the university is “A preferred university for developing leadership in technology and productive citizenship” (DUT, 2009:3). Its mission is “*to excel through:*

- *A teaching and learning environment that values and supports the university community.*
- *Promoting excellence in learning and teaching, technology transfer and applied research.*
- *External engagement that promotes innovation and entrepreneurship through collaboration and partnership” (DUT, 2009:3).*

CHAPTER TWO

THE ANALYTICAL CONTEXT

2.1 Introduction

This chapter extends the introduction provided in the first chapter by placing the study in an analytic context. Governmental steering of public higher education institutions towards the meeting of specific enrolment planning targets is very much an illustration of the rise of the “evaluative state” (Neave, 1988), and is attributed to the very powerful global influences that have made their way into the higher education sector throughout the world. The analytical context for this case thus views the impact of globalisation and the New Public Management (NPM) as important influences that exert pressure on the public higher education sector to meet efficiency targets.

The study is also deeply grounded in the local, South African context. The distortions of apartheid planning have created an uneven and racially skewed higher education system, with gross inefficiencies clearly apparent at institutional level. The student enrolment planning initiative must therefore be viewed as one of the attempts by the democratic government to address inefficiencies and inequality in the higher education system and to increase graduate output, which is critical to growth and development of the country as a whole.

2.2 The influence of globalisation on higher education transformation

A new world order, heralded under the banner of globalisation, became discernible at the end of the 1980s. The rise of globalisation was marked by a number of dramatic political and economic changes, most notably, the collapse of communist regimes and the emergence of a political hegemony bound by neo-liberal market ideologies (Maasen and Cloete, 2007:7). Dudley (1998: 22) states that this new world order of a truly global economy is a culmination of the following interdependent developments:

- *The aspirations of virtually all societies throughout the world towards Western materialist/consumer-based lifestyles.*
- *The penetration and near hegemony throughout the world of Western popular culture, particularly American expressions of this mass culture.*
- *The increased dominance of Western, and particularly U.S., models of production and consumption.*
- *The increasing integration of world economies into a single global international market.*
- *Free trade and the new international division of labour.*

The phenomenon of globalisation was given effect by a number of global and regional free trade agreements such as the World Trade Organisation (WTO), the European Union (EU), the North American Free Trade Agreement (NAFTA), the Southern Africa Development Community (SADC) and the Asia-Pacific Economic Co-operation Forum (APEC) (Maasen and Cloete, 2007:7). Cope, Leishaman and Starie (1997:446) advise that globalisation is not a new phenomenon – its processes are traceable to the sixteenth century and the spread of imperialism and capitalism across the globe. They argue that globalisation should be viewed as a quantitative and qualitative increase in the scope and intensity of the processes of internationalism. In this view, activities become “stretched” across the globe, and as a consequence, decisions, events and activities in one part of the world have immediate significance for others in quite distant parts of the world. This phenomenon makes states and societies more interconnected and interdependent (Cope, Leishaman and Starie (1997:446).

In higher education, Enders (2004:363) states that both “internationalisation” and “globalisation” were key themes in the 1990s. It is important to distinguish between these two processes, since these terms are sometimes erroneously used in the literature interchangeably.

Internationalisation has led to rapid changes in two respects in higher education (Enders, 2004:363). Firstly, there has been a number of “border-crossing” activities, most of which arise from institutional rather than governmental initiatives. These

activities would refer to student and staff mobility schemes, co-operative research activities and foreign language teaching to support these activities. Secondly, there are a number of changes towards “systematic national or supra-national policies”, combined with a growing awareness of issues of international competition and cooperation in a globalising higher education market. These policies are aimed at standardisation (whether international, regional or global) of the actual substance and structures of higher education such as study programmes and curricula (Enders, 2004:363). Teichler (2004:9) asserts that all higher education institutions have to be international, national and local, in order to avoid being obsolete. In this regard, he adds that international activities in higher education should be regarded as systemic and regular ones, which have to be “systematised and embedded” (Teichler, 2004:9). In contrast, globalisation refers to the restructuring of the state – largely through deregulation of legal and financial controls and the opening up of markets and quasi-markets, and this includes higher education. In the context of higher education, globalisation is associated with market-steering (Teichler, 2004:7). Also of significance to this study is that globalisation in the higher education context denotes the increasing primacy of such concepts such as competition, efficiency and managerialism (Enders, 2004:367).

Globalisation has been met with varying degrees of scepticism and concern. Currie (1998: 19) asserts that “persons on the left and right of politics are questioning the belief in the magic of the marketplace”. She adds that even conservative leaders and business leaders are questioning the society that is being created by globalisation, with its characteristics of excessive competition and individualism. Part of the concern, argues Currie (1998:9), is that there is a difference between the globalisation trends that draw countries into the global economy and those practices of globalisation where it would appear that the market is the only factor to consider in the way we structure our lives and our institutions.

Despite the criticisms and concerns relating to the impact of globalisation, its rhetoric has entrenched the notion that the changes accompanying the phenomenon are neutral, objective and inevitable, where there is “no sense of human agency in change; rather, human agency is in responding to or reacting to change” (Dudley, 1998 :27). In this view, countries have no alternative other than to respond or react to the changing economy brought about by globalisation. With the emergence of globalisation, and the fact that national economies have become subsumed into a global economy, the “discipline” of international markets and money markets has become the major determinant of public policy, rather than national, social or political priorities (Dudley, 1998: 25). Since the advent of globalisation, public policies, almost without exception, have required states to reduce public spending, deregulate capital and labour markets, and move increasingly towards privatisation, in the pursuit of the goals of efficiency and other economic considerations. Thus, in a country such as Australia, according to Dudley (1998:39), a number of policies were drawn up to open the Australian economy to the competitive pressures of the global economy.

A climate of accountability within public organisations has been another consequence of globalisation, and one in which the higher education sector has not been excluded. As Gumport (2006:69) observes, “*higher education has been squeezed into a vise, even as various state actors have taken it upon themselves to dissect the enterprise, inspecting slices of academic life/work/teaching/learning under a microscope*”. The introduction of performance indicators and the rise of managerialism within higher education institutions should thus be seen in the context of the global pressures that have been placed on societal structures, particularly on those that are funded with public funds.

A study of the structural changes in the global economy and the effects of these changes on higher education policies in four countries, viz. Australia, Canada, the

United Kingdom and the United States (Slaughter, 1998 : 45), established that all four countries had instituted policies that :

- Encouraged greater access for students, but at a lower national cost. In this regard, there was a move away from financing students, and instead, tuition fees were raised and there was a switch from student grants to a greater use of loans.
- Emphasized the value of higher education to national economic activities, and thus encouraged “market-like activity on the part of faculty and institutions” (Slaughter, 1998: 46). Thus, commercial research (applied and entrepreneurial) was encouraged through policies that generally indicated a preference for institutions that had relevance to the market.
- Integrated higher education into government planning processes that were inclined towards economic development.

The restructuring of national policies in all four countries represented a move towards “academic capitalism”, characterized by the movement of universities towards the market to secure external funds (Slaughter, 1998: 46).

Maasen and Cloete (2002: 13) explain that the response of states in the new world order is a result of an environment that has been created, in which nation states are strongly affected by global trends and pressures. Thus, much reform pressure is placed on all sectors of society, including higher education, where there is a general consideration by nation states of a reorientation and repositioning of their predominantly public higher education systems. According to Maasen and Cloete (2002:16), the traditional relationship between higher education institutions and governments has disintegrated, with the following trends surfacing as a result:

- Decreasing support for higher education, both financially and politically, and
- Accusations of insufficient quality responsiveness, effectiveness and efficiency in higher education.

The collapse of traditional relationships with governments has resulted in demands being placed on higher education institutions in respect of greater accountability through formal evaluations, the development of performance indicators and a general steering of higher education by market forces. Higher education systems have thus changed from national organisations into “global players mainly operating on the basis of economic considerations” (Maasen and Cloete, 2002: 17).

It has also been argued that the dominance of market forces and economic considerations have led to higher education changing from a social institution to an “industry” (Gumport, 2000:68). According to this view, higher education has traditionally been responsible for the development of individual learning and human capital and the preservation of knowledge and, in so doing, has contributed to national economic development. This traditional conception of the university as a social institution has been the dominant paradigm for centuries, and was characterised by a compact or “social contract”, in which higher education enjoyed interdependence with other social institutions, including other levels of education, the family, government, industry, religion and popular culture (Gumport, 2000:74). However, with a decline in public confidence in higher education institutions, the present dominant paradigm is to view higher education as an industry, where public colleges and universities are viewed as “quasi-corporate entities producing a wide range of goods and services in a competitive marketplace” (Gumport, 2000:71).

Thus, the role of higher education is to provide for customers in line with the economic laws of supply and demand. According to Gumport (2000:67-89), the perspective of higher education as an industry has been created by such factors as the rise of professional administrators and academic managers, the sovereignty of the consumer, and utilitarian considerations for academic subjects, curricula and even staff. The higher education-as-an-industry perspective thus places an emphasis on performance, efficiency, improved management and much adaptation and flexibility.

As Coffield and Williamson (1997:1) ironically point out, even the language of education has become “industrialised”. These authors refer to the fact that students have become “customers”, “consumers” and even “inputs and outputs”. Heads of departments are referred to as “line managers”, and many vice-chancellors prefer to be referred to as “Chief Executives”. Lecturers no longer teach, but “deliver the curriculum”, and the aims and objectives of subjects and courses are referred to as “learner outcomes”. Financial cuts are presented as “efficiency gains”, and short courses are considered to be “cost effective”. Staff are never declared redundant, however institutions “restructure”, “downsize” and even “rightsize”. All of these terms serve to underscore the role of higher education as an industry.

An unfortunate consequence of the movement of higher education institutions towards the use of market discourse and managerial approaches in order to gain legitimacy in society, is, as Gumpert (2000:87) argues, they end up losing legitimacy as they change their practices to such an extent that they move away from their historical character. However, Newson (1998:309) points to the important fact that even within the globalisation discourse, there ought to be a renewed emphasis on the value and importance of universities. Thus, universities ought to use their strengths to play a much stronger role in, and to use their influence over, the forces of change. The university could, in addition to its contribution to facilitating social mobility and extending access to economic prosperity, regain its role in promoting democracy, which is considered a neglected area in globalisation (Newson, 1998:310). The university is perhaps the only place left in society where democratic values, democratic practices and a democratic vision “can be put forward insistently as the underlying guiding principle of the ‘new world order’ building that is taking place” (Newson, 1998:310).

2.3. Globalisation and South African higher education

How does globalisation impact on the transformation of South African higher education? A study of the literature indicates that globalisation has been impacting on higher education transformation in South Africa since the attainment of political democracy in 1994. Soon after South Africa's remarkable negotiated political settlement and its first democratic election in 1994, the transformation agenda for higher education inexorably adopted a dual focus.

In addition to such local demands as redress, the widening of access and the democratisation of institutions of higher learning, the national agenda for change that was placed before the National Commission on Higher Education when it commenced its deliberations in 1995 was complicated by the overwhelming influence of international "best practice" brought about by globalisation. The dual focus of the transformation agenda has consistently been articulated in policy statements, policies and press releases concerning higher education change over the years. As the Council on Higher Education's (CHE, 2000:4-5) "Size and Shape Task Team Discussion Document" asserts:

"...a coherent, co-ordinated and integrated national higher education system....must respond to the requirements of a society emerging from a long history of structural inequality and underdevelopment. It must respond as best it can to the challenges of social, economic and cultural development and encompass development across a broad range of areas of knowledge. Higher education's primary role is to develop the thinking and intellectual capabilities of our society and through such development to address the range of economic (including labour market), social, cultural, political and other challenges faced by society as a whole. It must do so at a national, regional and local level and indeed contribute in some measure to the development of the continent.....Moreover, higher education must play a central role in meeting the difficult realities of international competition in an environment of rapid global change, driven, as it is, by momentous changes in information and knowledge production systems".

The impact of globalisation has had a profound effect on higher education systems generally. In South Africa, these global influences had 'overrun the national reform

agenda for higher education like a flood through a hole in the wall' (Maasen and Cloete, 2007:8). The 'wall', according to Maasen and Cloete (2007:8) had isolated South Africa from global changes, and "had been a bulwark against a pent-up demand for internal change".

An important issue is the extent to which the changes that are demanded as a result of globalisation can be reconciled with the local transformation initiatives that are urgently required. Or, as Waghid (2001) bluntly asks, is democracy under threat from globalisation? In an evaluation of the "size and shape" restructuring proposals that were presented to the Council on Higher Education in the year 2000, Waghid (2001:457) makes the important observation that the proposals for the reconfigured higher education system, which aimed to reduce high levels of structural inequality and underdevelopment, were very much "attuned to the logic of globalisation", since these were aimed at achieving global competitiveness. There are therefore links between the transformation initiatives for achieving equity and the aim of competing globally in the higher education environment. The question of relevance to Waghid (2001: 457) is whether the investment in human capital and the reduction of inequality, which can be regarded as adjunct concerns of the globalisation agenda, would substantially advance the aims of democracy in South Africa. He argues that democracy is threatened by globalisation in a number of ways, the main one being that market-driven activities have the effect of causing rising inflation and unemployment. Consequently, socio-economic inequality would be aggravated. The central premise of his argument is that democracy cannot survive with serious socio-economic inequality. Waghid (2001:461-462) asserts that the prospect of democracy surviving within globalisation would require higher education not to be run according to the dictates of the market. A major role of higher education is to promote the values of justice, freedom, equality and social citizenship, and to produce a labour force that achieves "both economic and humanising goals of society". In addition, reform in higher

education should be undertaken to ensure that there is a development of trust, individual autonomy and democratic dialogue.

2.4 The New Public Management (NPM)

A contemporaneous development within the public sector accompanying the pressures of globalisation has been the New Public Management (NPM), which is regarded as a “global paradigm” (Strehl, Reisinger & Kalatschan, 2006:14) of the role and functions of public administration, as well as of overall public systems and individual units. Cope, Leishaman and Starie (1997:448), make the important link between globalisation and the NPM by their assertion that “It is no accident that the wave of NPM crashing through governments worldwide corresponds with increasing globalisation”. They point out that states have been restructuring themselves and the societies they govern in order to remain competitive in the global marketplace. In Western countries, NPM has been a very prominent form of restructuring as a result of globalisation.

Within the public sector, responsiveness to global changes and the renewed emphasis on accountability and performance has been operationalised through the practice of the New Public Management, and higher education institutions too have been subject to its influences. Dunleavy and Hood (1994), according to Cope, Leishaman and Starie (1997:449), state that NPM represents the new way of managing the public sector by “reorganizing public sector bodies to bring their management, reporting and accounting approaches closer to business methods”. NPM also encourages greater competition between the private and public sectors and within the public sector in order to make public organisations more consumer-responsive (Cope, Leishaman and Starie (1997:449).

2.4.1 The elements and instruments of NPM

The main elements and instruments of NPM, according to Strehl, Reisinger & Kalatschan (2006:14) are:

- Decentralisation of decision-making processes : Politics develop and define the goals and objectives and the agencies are responsible for their realisation (politics do not influence the operative realisation results)
- Steering by outcomes or outputs (rather than inputs) and clarification of targets through performance agreements
- Introduction of market-type mechanisms and competition between public institutions
- Flattening hierarchical structure by the creation of partially autonomous entities and agencies with global budgets
- Introduction of private sector management instruments such as cost accounting, marketing, strategic management or human resource management.

Ferlie, Musselin and Andresani (2008:335) state that the NPM philosophy places more emphasis on efficiency, value for money and performance rather than ideals such as democracy or legitimacy. Further, NPM ideas are “owned” by government eg. Ministries of Finance or the Prime Minister/President’s office, and are usually imposed in a top-down fashion to public services at the field level (Ferlie, Musselin and Andresani, 2008:335). Recent studies have shown that the era of NPM is far from over, and that in many countries, its impact has been considerable, despite tensions around its implementation and the fact that different subtypes of NPM have emerged. France, for example, is regarded as a late comer to NPM, and does not use the label as such, although the main principles of NPM are used in its new budget procedures (Ferlie, Musselin and Andresani, 2008:335).

2.4.2 NPM and Higher Education

The introduction of NPM principles to the higher education sector has been inevitable, but not without controversy. A major reason for the controversy is that public higher education systems have traditionally been regarded as a stand-alone sector, not easily or often compared with other public sector systems (Ferlie, Musselin and Andresani, 2008:326). The perception of the uniqueness of higher education institutions from other public agencies has been expressed in the so-called “Parsonian” tradition in reference to the American university (Schimank, 2005 : 361) and the “Humboldtian” concept in reference to the traditional German university (Schimank, 2005:363).

According to Schimank (2005:361), the Parsonian notion of the University saw universities as organisations run by academics “even more than hospitals are run by medical doctors”. In this view, universities are indispensable to society but are subordinated to the power of the academic professions. The Humboldtian idea of “solitude and freedom” saw the state in control of the university, through funding and other privileges, but the academic professors had full autonomy over the university’s functioning (Schimank, 2005:363). In the above perspectives of the traditional university, the state’s role is largely to ensure the autonomy of higher education. This tradition regards academics as “producers, users and owners of an esoteric knowledge whose quality or costs cannot be assessed or controlled by ‘profanes’ (public authorities, members of the civil society, etc.)” (Ferlie, Musselin and Andresani, 2008:327). Thus, despite its dependence on public funding, the higher education system has for centuries been protected from government steering.

However, NPM concepts and theories which have been developed within the public sector generally have been adapted and introduced into the higher education sector (Strehl, Reisinger & Kalatschan, 2006:14). The paradigm shift that became discernible through the introduction of NPM thinking into higher education entailed several challenges for both governments and individual institutions. The state’s focus is now

on political/strategic issues and “steering at arm’s length” (Strehl, Reisinger & Kalatschan, 2006:14), and there is a strict demarcation of policy formulation and policy implementation. There is also a change from the traditional input and formula-based funding to a system that emphasises output and performance. In response to the emphasis on output and performance, managerial practices within public higher education institutions have assimilated practices associated with the business sector. Thus within the higher education sector, there has been the adoption of “new” functions such as marketing, strategic planning, fundraising, cost accounting, patents management and public relations.

As already indicated, the introduction of NPM to higher education in many countries has been met with controversy. Various concerns have been raised about the fact that self-regulation has led to a loss of autonomy and the traditional values associated with a University. As an illustration of these concerns, Schimank (2005:362) laments the loss of autonomy and the invasion of the market in higher education in Germany. He asserts:

“Simultaneous growth and loss of autonomy are now dominant features of the German university system. Since the 1980s, ‘new public management’ (NPM) has become the keyword. Its basic slogans – ‘more market’, ‘less regulation’, and ‘strong leadership’ – have become commonplace. The universities, like other public services – such as transport, telecommunications, hospitals, and schools – have become sites of application of NPM.....It has gathered strength from a coincidence of factors, including a growing sense of public unease with academic autonomy and an expanding opportunity that favours political intervention. If allowed to continue unchecked in its present form, it is argued, the process may threaten the most distinctive features of academic life.”

The challenge facing the University, according to Schimank (2005:375) is to ensure that public trust is restored in academia. This should be achieved by a balance between professorial autonomy and professional responsibilities. However, he argues that government policies in respect of evaluation, resource allocation and recruitment should not be passively accepted. Rather, Schimank (2005:375) argues, “academics

should no longer leave evaluations to others, but should invest in *self-defined measures* (author's emphasis) of quality, relevance and efficiency, and in the collection of and propagation of data, as is done in the UK and Australia.

At face value, the call by Schimank for self-regulated quality control at German universities is understandable, as it is in line with the historical ethos prevailing at universities for decades. However, as Orr, Jaeger and Schwarzenberger (2007:4-5) point out, the German higher education system has been subjected to enormous pressures created by system expansion, and higher education has not been able to cope with these pressures on its own. The number of new entrants into higher education rose significantly between 1998 and 2003, from 258000 students to 347000, an increase of 35%. This increase was accompanied by an increase in the demand for academically qualified workers in the labour force. However, the performance of German higher education as a whole pointed to the fact that the demand for an increase in the number of graduates was not going to be met easily, as the following data suggests:

- Students in German higher education take on average five years and four months to complete their courses;
- Less than 25% of all students at universities complete their courses in less than five years, and a further 25% take more than eight years to complete; and
- The number of graduates decreased by 7% between 1998 and 2002 (Orr, Jaeger and Schwarzenberger, 2007:4-5)

Education reform using NPM principles has thus arisen in Germany. According to Orr, Jaeger and Schwarzenberger (2007:3) there have been reforms in funding allocations to German higher education institutions based on indicator-based models. The key NPM element that was implemented in German higher education was the emulation of the market through “state-induced competition” (Orr, Jaeger and Schwarzenberger (2007:4).

The issue of whether performance management as a NPM-derived management tool is applicable to developing countries is raised by de Waal (2007). According to him, NPM is increasingly being introduced into developing countries, including African countries (de Waal, 2007:70). However, many of these countries have only introduced certain elements of NPM such as privatisation and downsizing (de Waal, 2007: 70). Performance management is an element of NPM which is fairly new to many African countries, and is usually restricted to performance-orientated staff appraisal systems. In his study of performance management at a Tanzanian higher education institution, de Waal (2007: 81) concludes that the tool of performance management is an effective method for organisations in developing countries to improve their performance. However, he adds that such initiatives aimed at fostering performance-driven behaviour should not be taken lightly, and management would need to keep focussing on performance management to keep the concept alive in the organisation. In this regard, organisations in developing countries can learn much from western organisations which have been dealing with these issues for over two decades (de Waal, 2007: 81).

2.5 The local context: government steering of HE institutions in South Africa

2.5.1 The apartheid legacy

By the end of 1993, the South African higher education system consisted of 21 universities, 15 technikons and 140 colleges. All of these institutions had developed within the framework of apartheid ideology, and mirrored the political system's injustices and inequalities. As a result of apartheid-driven uneven development, significant differences existed between historically black institutions (HBIs) and historically white institutions (HWIs) in respect of participation rates and outputs, such as success and graduation rates. The system as a whole thus displayed various inefficiencies. The discrepancies and inequalities with respect to funding of HWIs and HBIs exacerbated inefficiencies within HBIs.

After the demise of apartheid, the crucial challenge facing the new government was to determine how higher education could succeed in transforming the system “through the development of a policy aimed at economic growth, the enhancement of a democratic political system, and promotion of the cultural and intellectual life of a society” (Asmal, 2003). A position paper submitted to Parliament by the Select Committee on Education and Recreation in 2006, reported that the need to transform higher education stemmed from two sets of factors:

“Firstly, a historical legacy of inequity and inefficiency which inhibits its ability to meet the moral, social and economic demands of the new South Africa. Secondly, a context of unprecedented national and global opportunities and challenges that required state intervention, especially in expanding access for all people in South Africa regardless of race, gender, age, location and financial position” (Republic of South Africa (RSA), 2006:6).

Following the report of the NCHE in 1996, a number of far-reaching changes in higher education have been introduced. Within a few years, the terrain of higher education was characterised by a plethora of governmental policies and legislation intended to restructure the sector using the steering mechanisms of planning, funding and quality assurance.

Arguably, the most significant thrust to student enrolment planning was the introduction of the New Funding Framework (NFF) (RSA, 2003) for higher education. The NFF is regarded as a steering mechanism developed to direct the higher education system towards goals and targets set in the NPHE. It must be emphasised that in nearly all parts of the world, the instrument of funding is increasingly being used to steer higher education towards national goals. These goals could be the changing of patterns of student enrolments (as in South Africa), or other national imperatives.

While the goal of expansion of access as referred to above remains an important objective, in recent years, government has stressed that such access has to occur within a framework of affordability. Hence, growth of the sector has to be controlled. Higher education’s role would be linked to the socio-economic needs of the country, as

determined by government, so negotiated student enrolments within specific fields of study would also form the basis of planning.

Apart from passing legislation, government commenced with a systematic consultative process with the higher education sector in 2005, on the issue of developing enrolment plans. The process included a number of meetings with individual higher education institutions to negotiate and determine the input and output indicators of their rolling plans. As already indicated, this consultative process culminated in the release of the Ministerial Statement on Enrolment planning in November 2007, and individual higher education institutions are now required to implement their plans which have been determined for the period 2006-2010. Such implementation involves the challenge of institutions meeting enrolment targets within specific fields of study, and the meeting of specific benchmarks that are intended to see improvements in the graduation rate for the sector as a whole.

Recent research paints a bleak picture for South African higher education, reinforcing the need for intensive governmental steering. A case in point is a recent survey conducted over 2007- 2008 by the research organisation Ask Africa (Finweek, 2009: 3). This survey, based on the attainment of five performance indicators: quality of teaching and learning; research output across all academic fields; graduate employability; resources; and financial sustainability and productivity, revealed some alarming trends. The survey revealed that the worst performing institutions were those that were part of the 2004/5 restructuring process, where previously black universities were merged with historically white ones. While the system had transformed itself racially, there were glaring deficiencies in respect of performance of the merged universities. According to the survey findings, problems persisted in the enrolment issues with which this study is concerned in respect of high failure rate, high dropout rates, unemployability of graduates and disparities in the graduation rates between black and white students.

In the light of findings such as the above, it is understandable that higher education institutions have been “put on terms”. Thus, student enrolment planning, with various indicators linked to inputs, equity and outputs, is an important initiative in the series of transformation measures that have been adopted in South African higher education. It is not suggested, in the above references to the processes involved in the development of policy around student enrolment plans, that these processes have been smooth and uncontroversial. Nor is it argued that the very notion of steered enrolment plans has been accepted without contestation within the higher education sector. On the contrary, higher education institutions have complained about contradictory signals being received at times during the policy development phase, particularly on the matter of enrolment capping. In addition, current debates around autonomy and academic freedom still make reference to government’s steering of student enrolments, using the lever of funding, as an indication of government’s erosion of the autonomy of higher education institutions (Jansen, 2005; CHE, 2008 and Akor and Roux, 2006). Various milestones in higher education transformation in South Africa are described in the following sections from the perspective of how policy in student enrolment planning developed, and how the policy is intended to contribute to national goals.

2.5.2 Policy development in student enrolment planning in South Africa

2.5.2.1 Report of the National Commission on Higher Education (NCHE)

The report of the NCHE presented to President Mandela in 1996 proposed, in its reference to student enrolments, that there should be increased participation in the system particularly by African students. The proposals for increased participation, or “massification”, would see South Africa reach “a participation rate of approximately 30% (as percentage of the 20-24 year-old cohort) over the next decade” (NCHE, 1996:11).

In placing the NCHE proposals in context, it must be noted that the overall participation rate in 1994 was 17%. Further, there were low throughput levels and low graduate outputs, which resulted in a skills shortage for the new South Africa (Bunting, 2002:147). The NCHE report noted that the growth experienced at the time had not been planned at systemic and institutional levels, and thus proposed that the massification of the system had to occur within a framework of planning, which in turn, had to be informed by capacity, available resources and national human resource needs. As indicated earlier, the urgency of the envisaged transformation measures was created by both the local as well as the global context. The NCHE report was unequivocal in regard to the challenges posed to South Africa in the new global economy:

“...as a result of the lifting of trade and investment sanctions and the resumption of foreign loans the economy is suddenly confronted with the formidable challenge of integrating itself into the competitive scene of international production and financial activities. This means the South African economy has to contend with the impact and demands of one of the dominant features of late twentieth century modernisation, namely the development of globalisation.” (NCHE, 1996:52-53).

The NCHE proposed the following central features of the new higher education framework (NCHE, 1996: 76-80), which are summarised as follows:

i) Increased participation in the system by a diverse range of constituencies.

In this regard, the NCHE proposed a policy of expansion, both in respect of numbers of participants in the higher education system as well as in the diversity of participants. The envisaged expansion, the NCHE asserted, would necessitate higher levels of planning and coordination. A funding model would also be necessary that would ensure affordability and sustainability. In addition the report stressed the importance of quality, in view of the fact that increased numbers can affect standards.

ii) Increased cooperation and more partnerships between higher education and other social actors and institutions.

This feature signified a movement away from “institutional self-reliance” and independence, towards recognition of interdependence with other organisations and sectors of society, including government (NCHE, 1996: 77). The parallels between this proposal and the changes occurring globally (as discussed earlier in the chapter) are very apparent.

The NCHE proposed a cooperative mode of governance, where the state becomes less directive and adopts a steering or coordinating role while the institution becomes less autonomous. In addition, the NCHE envisaged new higher education-economy linkages, where partnerships between higher education institutions, parastatals, private business and industrial enterprises would emerge. A part of the reasons why these partnerships were necessary, according to the NCHE, was because of the global economic changes that were occurring. This feature of increased partnerships and collaboration would also require a change in the way higher education institutions would be managed. Of significance to this study is the assertion by the NCHE that there would be a move from the more ‘collegial’ mode to “a more participatory way of policy making and a more ‘executive’ mode of implementation and administration” (NCHE, 1996: 79).

iii) Greater responsiveness to a wide range of social and economic needs.

By “greater responsiveness”, the NCHE meant that higher education has to become a more open and interactive system, which responds to the social, cultural, political and economic needs of its environment. Responsiveness implies that higher education has to take cognisance of the societal context in which it operates. In South Africa, the context is shaped by such factors as the state of transition that the country finds itself in, where development has been skewed by racial discrimination and oppression.

Thus, the content, focus and delivery modes of programmes that are offered as well as the institutional missions and policies must reflect the context (NCHE, 1996:79).

The challenge of responsiveness also means that institutions are accountable to larger social and economic constituencies. Thus, in South African higher education, there would be greater social accountability towards the “taxpayer and the client/consumer regarding the cost-effectiveness, quality and relevance of teaching and research programmes” (NCHE, 1996:80).

2.5.2.2 The 1997 Education White Paper 3: A framework for the transformation of higher education

The 1997 Education White Paper 3 should be seen as Government’s response to the recommendations of the NCHE, and is the most important policy document defining the direction that student enrolment planning would take. It links the student enrolment process within the overall context of higher education planning, and also defines the link between planning, funding and quality assurance. While accepting that transformation of the higher education system and its institutions requires increased and broadened participation, the White Paper did not accept the NCHE’s recommendation on the massification of the system. It argued instead that participation rates for African students and the whole system should be placed within the context of the government’s macro-economic framework and fiscal policies.

With respect to planning in a single co-coordinated system, the White Paper states:

- The size and shape of the system had been determined by “uncoordinated institutional decisions on student enrolments and programme distribution”, and this was “untenable” (RSA, 1997:2.7).
- There was a need to develop a planning framework at both system and institutional levels “to successfully address the legacy of the past, respond to national needs, link labour market opportunities and higher education outcomes, and provide a more stable funding environment” (RSA, 1997:2.8).

- National and Institutional three year rolling plans would be the key instruments in the planning process (RSA, 1997:2.9).

The White Paper also called for the establishment of a goal-orientated, performance-related funding framework which was intended to enhance equity in student access, improve the quality of teaching and research, improve outputs (student progression and graduation rates) and to respond more adequately to social and economic needs (RSA, 1997:4.12-4.14). The new funding framework was to include a mechanism for block funding to institutions on a triennial basis, as well as the provision of earmarked funding for specific purposes. The new funding framework would also entail the Ministry of Education negotiating subsidised full-time equivalent (FTE) places with individual institutions, and announcing this three years in advance “in order to give institutions a predictable basis for planning” (RSA, 1997:4.23). These negotiations would take into account such factors as labour market signals, student demand, as well as institutional capacity and performance. The White Paper makes clear that failure by institutions to meet FTE planned enrolment targets would make an institution liable to “forfeit equivalent funds by way of reductions to its operating grants according to a publicly known procedure” (RSA,1997:4.24).

2.5.2.3 The National Plan for Higher Education in South Africa (NPHE)

The NPHE, released in 2001, is an implementation framework intended to “give effect to the vision for the transformation of the higher education system outlined in *Education White Paper 3: A Programme for the Transformation of the Higher Education System*” (RSA, 2001a:4). The NPHE states that funding of higher education and the planning process would be the levers to achieve the goals and targets of the plan. From 2003, funding of individual institutions would be directly linked to the approval of institutional three year “rolling plans”, which would be a departure from the previous practice of funding based on past student enrolment trends. Thus, approved institutional plans would determine the level of funding of each higher

education institution, through a new funding formula as outlined in Education White Paper 3.

The NPHE indicates that the Ministry, in using the planning and funding levers, would establish “incentives and sanctions” to steer the system towards its goals (RSA, 2001a:10). As already indicated, the White Paper indicates that sanctions in respect of reductions in subsidies would occur where institutions fail to meet planned enrolment targets. The NPHE indicates two incentives for institutions that improve their graduation rates: firstly, graduate outputs would be an integral component of the new funding framework; and secondly, institutional performance in respect of graduate production will determine the programmes that can be offered in a programme planning grid (RSA, 2001a:21).

The NPHE’s strategic objective of producing graduates with the skills and competencies necessary to meet the human resource needs of the country would be met by the following priorities:

- *“To increase the participation rate in higher education to meet the demand for high-level skills through a balanced production of graduates in different fields of study taking into account labour market trends.*
- *To increase the number of graduates through improving the efficiency of the higher education system.*
- *To link improvements in efficiency to improvements in quality.*
- *To broaden the social base of higher education by increasing access to higher education of workers and professionals in pursuit of multi-skilling and re-skilling, and of adult learners who were denied access in the past.*
- *To produce graduates with the skills and competencies required to participate in the modern world in the 21st century”* (RSA, 2001a:14).

The Plan set the following institutional efficiency benchmarks in respect of graduation rates:

TABLE 1: Benchmarks for graduation rates (Source: RSA, 2001a: 20)

Qualification-type	Graduation rate	
	Contact	Distance
Up to 3-years: undergraduate	25%	15%
4 years or more: undergraduate	20%	10%
Postgraduate: up to honours	60%	30%
Masters	33%	25%
Doctoral	20%	20%

2.5.2.4 The New Funding Framework (NFF)

In South Africa, one of the most significant policy changes called for in the 1997 White Paper on higher education transformation was the introduction of a goal-oriented, performance-related framework of public funding. The new funding framework (NFF), which uses funding to “steer” institutions in a pre-planned direction in respect of the overall size and shape of higher education in the country, was introduced in the 2004/2005 financial year, after some delay. The discussion document for the NFF was released by the Ministry of Education in March 2001, and was gazetted in December 2003.

Bunting (2002:134) states that one of the “anticipated consequences” of this new planning-funding system would be the “dampening down” of institutional competitiveness and institutional autonomy, as institutions would have to work within a national plan for higher education and an individual institutional plan approved by the Minister. According to Pillay (2003:1), the previous South African Post-Secondary Education (SAPSE) formula which was used to determine funding for higher education institutions and which had been developed during the apartheid era, was based on the “student-as-rational-agent” model. This model assumed that students were able to respond rationally to the demands of the labour market and their “choices

of institutions, qualifications and major fields of study followed labour market signals and their reading of these signals” (Pillay, 2003:1).

The only role for government given by this model was to fund these demands and to correct any market failure that may occur. The new government regarded this model as inadequate for various reasons, including the argument that the market did “not always ensure optimal outcomes” in terms of the human resources needs of developing countries (Pillay, 2003:2). The NFF can be described as a goal and a performance distributive mechanism which “explicitly links the allocation of funds to academic activity and output, and in particular to the delivery of teaching-related and research-related services which contribute to the social and economic development of the country” RSA, 2003:1.8).

Another important departure of the NFF from the previous SAPSE formula is that funding would, in terms of the new framework, be based on affordability linked to the achievement of national policy goals and objectives, and not institutional costs (RSA, 2003:5). The Medium-Term Expenditure Framework (MTEF), which underpins the national budget process and planning by institutions, would determine the funds to be allocated to institutions. Thus, in terms of the NFF, the Department of Education would be required to approve institutional three-year rolling plans, which will include approval of student enrolment plans which would be consolidated into system-wide totals of FTE student places to be funded by government.

The main elements of the NFF are:

- Block funds, which consist of research funds generated by approved outputs, teaching funds generated by planned Full-Time Equivalent (FTE) student enrolments as well as approved teaching outputs and institutional factor funds (which takes into account the number of previously disadvantaged students that are enrolled at an institution, as well as the approved size and shape of

institutions). The steering of enrolments through funding takes place by differential weightings for FTE enrolments based on subject matter categories (disciplines) as well as course levels (from undergraduate to doctoral and equivalent levels). Teaching output subsidies are also awarded as an incentive to institutions to improve their graduation rates.

- Earmarked funds, which are for specific purposes, for example, foundation programmes, the national student financial aid scheme, and approved capital projects.

2.5.2.5 Report: Student enrolment planning in public higher education

A further development was in 2005, when the Department of Education released a report, “Student Enrolment Planning in Public Higher Education”. The report pointed out that from institutional and systemic data of 2000 – 2003; the growth pattern shown in the higher education system was neither affordable nor sustainable. The growth in enrolments had exceeded government funding, and sustainability was affected by inefficiencies such as high dropout rates, and low success and graduation rates. The report further added that affordability and sustainability requirements could only be met by controlled enrolment numbers, which in turn would be steered by government funding on the basis of three-year rolling plans. In addition, various performance indicators: input indicators, output indicators and equity indicators would be used to assess institutional performance.

The report on student enrolment planning in higher education was released by the Department of Education (DoE) to Higher Education South Africa (HESA) and the Council on Higher Education (CHE) for comment in March 2005, and outlines in detail the direction that enrolment planning would take by explaining the processes undertaken by the DoE to arrive at the enrolment planning framework for higher education and proposes revised enrolment targets for the sector and demonstrates scenarios on effects of enrolment growth on funding.

The report makes the following reference to the Ministerial Statement on Public Higher Education Funding: 2004/05 to 2006/07, released in December 2003:

“The Department of Education will during the first half of 2004 engage in a system-wide student enrolment planning exercise covering the academic years 2005 to 2007, to facilitate the implementation of the new funding formula and, in particular, to ensure that institutional enrolment plans are affordable and sustainable in the context of the Medium – Term Expenditure Framework. The enrolment planning exercise will involve the Department developing broad national and institutional enrolment projections indicating the student numbers that the Department will consider funding in the financial years up to 2009/2010 (enrolments for 2007 will generate block grants for the 2009/2010 financial year). The enrolment planning projections will be developed on the basis of (a) the goals and targets set in the National Plan for Higher Education; (b) the various projections contained in this Ministerial Statement, and (c) institutional student input and output data for years up to and including 2003” (RSA, 2005a:4).

In addition to the above details, various proposed indicators for enrolment planning (input, output and equity indicators) are listed in the report.

2.5.2.6 Ministerial statement on student enrolment planning: 2005

In the above Ministerial statement, the Minister affirmed the principles on which the discussion document (report) referred to in 2.5.2.5 had been based, and proposed a framework for advancing the student enrolment planning process in higher education. The first part of the Ministerial Statement outlines the role that student enrolment planning plays in higher education. The Minister advised that there is consensus that the higher education system should be planned, governed and funded as a *national system* as stated in the Education White Paper 3, the National Plan for Higher Education, and the Higher Education Act (Act No.101 of 1997).

The Minister also indicated that the three key steering mechanisms which would be used to transform the higher education system are planning, funding and quality assurance. This should be viewed from the perspective of supporting the country’s social, political and economic development needs, and hence “Enrolment planning

should therefore not be seen in isolation from broader planning processes or from funding and quality assurance imperatives” (RSA, 2005b:1).

The Minister further indicated that the policy on student enrolment planning in South African higher education had emerged against the backdrop of the following “troubling features”:

- The increased access to HE had not been accompanied by related strategies that would ensure quality improvement in the institutions or in the sector.
- Growth in higher education had been driven by institutional interests and not through sectoral or national plans.
- Enrolment growth in the sector had been unrelated to available funding. Within institutions, such growth has not been balanced by the available physical and personnel resources.
- The lack of planning had compromised quality issues, and consequently the system was faced with the problem of high drop-out rates of students – almost 50% of admitted students drop out without completing their qualifications (RSA, 2005b:1).

The second part of the statement indicates that enrolment planning in South Africa is to be based on the following principles:

- *“The higher education system must respond appropriately and contribute to national human resource development and research priorities, in particular, in scarce skills fields such as teacher education and science, engineering and technology.*
- *Enrolments should be matched to available resources to enable the higher education system to deliver on its teaching and research mandate especially in the light of approved programme and academic profiles in the system.*
- *Institutions should in the coming period focus on improving graduation and success rates through better management of new intakes and readmission of returning students”* (RSA, 2005b:2).

The third part of the statement outlines the enrolment planning process for 2006-2007, and in particular, the fact that there would be bilateral discussions between the DoE

and individual institutions to discuss and agree upon funded headcount and FTE student totals for the period 2007-2009, based on institutional data for the years 2000-2003, and enrolment and output data for 2004.

2.5.2.7 Ministerial statement on student enrolment planning: November 2007

The Ministerial statement released in 2007, which was sent to all Vice-Chancellors, confirms and consolidates the student enrolment and output targets which had been negotiated with individual institutions since 2006 into a table with national planning targets. Including advice from the CHE and HESA, the statement confirms the principles for enrolment planning since the ministerial statement of 2005, including the following commitment to flexibility:

“A differentiated approach to enrolment planning must be adopted. The planning process must accept that uniform sets of planning goals and targets cannot be applied across all institutions in the public higher education system” (RSA, 2007:2).

2.5.2.7.1 National student enrolment planning targets

Table 2 (page 49) details the national student enrolment planning targets, collated from the negotiated institutional targets. It sets out target headcount enrolments by qualification type, enrolment shapes by major field and qualification types and the various output targets for 2010, compared with the actual national 2005 figures. A summary of the main features of the national targets follows:

Headcount totals: the targeted 2010 headcount total is 816 000 students, 78 000 higher than the 2005 totals. To achieve this, the higher education sector will have to grow at an average annual rate of 2% until 2010.

Full-time equivalent (FTE) enrolments: the plan expects that the higher education sector will have an FTE enrolment total of 566 000, compared with the 508 000 in 2005. This entails a growth of 2, 2 %.

Shape of enrolments: the national enrolment plan expects that postgraduate enrolments should grow at a faster rate than undergraduate enrolments: from 15% in 2005 to 17% in 2010 (from 52000 in 2005 to 65000 in 2010).

Science, engineering and technology (SET) majors should increase to 30% of total enrolments in 2010, business and management majors to 33% and education and humanities should decrease from 42% to 37% of total enrolments by 2010.

Student outputs: it is expected that success rates of all courses should increase from 71% (as in 2005) to 73% in 2010. The total number of graduates should increase from 120 000 (2005) to 142 000 in 2010.

A concluding comment made by the Minister, highly relevant to this study of implementation of the enrolment plan by a specific higher education institution, is as follows:

“The performance of institutions relative to their input and output targets will be monitored annually. If an institution’s performance falls below the targets, then the Minister may ask its Council to submit a formal report on why this has occurred, and what remedial steps will be introduced” (RSA, 2007: 9).

TABLE 2: National student enrolment planning targets: 2010 (Source: RSA, 2007)

	Actual 2005	Target 2010	Average annual increase
Headcount student enrolments by qualification type (thousands)			
Undergraduate diplomas	251	277	2.0%
Undergraduate degrees	376	400	1.2%
Postgraduate qualifications below masters	59	73	4.5%
Masters and doctors	52	65	4.8%
Total	738	816	2.0%
Headcount student enrolments by major (thousands)			
Science and technology	214	245	2.7%
Business and management	214	269	4.7%
Humanities and education	310	302	-0.5%
Total	738	816	2.0%
Enrolment shape by qualification type			
Undergraduate diplomas	34%	34%	
Undergraduate degrees	51%	49%	
Postgraduate qualifications below masters	8%	9%	
Masters and doctors	7%	8%	
Enrolment shape by major field			
Science and technology	29%	30%	
Business and management	29%	33%	
Humanities and education	42%	37%	
Full-time equivalent enrolments (thousands)			
Total	508	566	2.2%
Student output rates			
Average success rate by course	71%	73%	
Graduation rate: total graduates divided by total head count enrolments	16%	17%	
Graduates (thousands)			
Total	120	142	3.4%

2.5.2.7.2 Student enrolment planning targets for the DUT

Tables 3 to 9 below show the specific targets of the enrolment plan as determined for the DUT. A brief explanation of the significance of these targets is provided below each table.

TABLE 3: DUT's Headcount enrolment totals: thousands

Actual 2005	2010 target: approved October 2007	Change: 2010 Target compared to actual 2005	Average annual increase: 2005 to 2010
22.8	22.5	-0.3	-0.3%

The headcount enrolment target refers to the actual, physical number of students that the DUT is expected to enrol by 2010. The DUT has planned, with the concurrence of the government, to decrease its enrolments from the figure of 22 800 in 2005, to 22 500 in 2010. Reasons why institutions may opt for decreased enrolments could be due to constrained space capacity, or a reduction in the programmes to be offered.

TABLE 4: DUT's targets for enrolment shape by major field of studies

Actual 2005			2010 Target: approved in October 2007		
Science & technology	Business & management	Humanities & education	Science & technology	Business & management	Humanities & education
49%	35%	16%	50%	35%	15%

Governments steer enrolments towards certain fields of study in order to address labour market needs where high level skills shortages have been identified. The reason why Science and Technology is a priority in South Africa is that participation in this field of study has historically been too low to meet the country's needs.

TABLE 5: DUT's targets for enrolment shape by qualification type

Actual 2005				2010 Target			
Under graduate diplomas	Under graduate degrees	Postgraduate qualifications below masters	Masters & doctors	Under graduate diplomas	Under graduate degrees	Postgraduate qualifications below masters	Masters & doctors
84%	15%	0%	1%	80%	18%	0%	2%

The steering of enrolments towards qualification types is sometimes negotiated by HE institutions and government planners. Thus, while the DUT primarily offers three-year diplomas, it plans to decrease enrolments gradually in this category, and increase enrolments in the Bachelor of Technology degree. A challenge would be to increase Masters and Doctors degree from 1% to 2% of enrolments.

TABLE 6: DUT's full-time equivalent student enrolments: unweighted thousands

Actual 2005	2010 Target
17.1	17.2

The ratio of FTE enrolments is a valuable measure of institutional efficiency. A single FTE enrolment is equated to a student that follows a typical full-time curriculum. Lower FTE enrolments imply a greater number of failures, since more students are carrying a portion of the full time curriculum for the year of study. The target for the DUT's FTE enrolment in 2010 is 17 200, a relatively marginal increase from the 17 100 in 2005.

TABLE 7: DUT's success rates: ratio of FTE degree credits to FTE enrolments

Actual 2005	2010 Target
74%	76%

Success rates are most often used in the context of performance of specific subjects, rather than that of a whole programme. The technical definition of the success rate is the percentage of FTE passes in relation to the total FTE registrations.

TABLE 8: DUT's ratio of head count graduates to head count enrolments

Actual 2005	2010 Target
19%	21%

The table refers to the graduation rate. The graduation rate is a percentage of the total number of graduates in a given year divided by the total of all enrolled students. Expressed in percentages, the DUT has to increase its graduation rate by 2% from its performance in 2005. Table 9 below is the graduation output, in numerical terms. The DUT has to increase the number of graduates from 4300 (as in 2005) to 4700 in 2010.

TABLE 9: DUT's graduate output targets

Actual 2005	2010 Target
4.3	4.7

2.6 Summary

This chapter set out to place this study in its context. This, as shown, has been shaped to a large extent by the local realities facing higher education, including the wide disparities and distortions of the system, inherited from apartheid. The role of student enrolment planning is but one of the initiatives currently being undertaken by the Ministry of Higher Education and Training in South Africa to transform this system, and policy development in this area must be seen in the context of the need for higher education institutions in South Africa to become more responsive to the needs of the economy and to contribute to the country's development. As shown in this chapter, legislation such as the 1997 White Paper 3 and the New Funding Framework (NFF) has sought to address the uncoordinated manner in which decisions on student enrolments and the programmes offered have been taken by higher education institutions in the apartheid years, and in the years immediately following democracy. The chapter has also placed the study in the global context, where, in most parts of the world, there is an emphasis on public institutions becoming more accountable for the

use of resources, and a greater public demand for efficiency, economy and effectiveness. Higher education institutions have been influenced to a large extent by the influences of globalisation and the New Public Management. The challenge for higher education institutions, as presented by some of the arguments in the sections on the influences of globalisation and NPM, is that while they have to become more responsive and accountable, they also have to attempt to ensure that much of their traditional values such as equality and democracy, continue to be championed.

CHAPTER 3

LITERATURE REVIEW: HIGHER EDUCATION MARKETING AND STUDENT ADMISSIONS PRACTICES

3.1 Introduction

The literature review in this chapter serves to provide a theoretical, contextual understanding of the issues that are posed by three of the research questions in Unit of Analysis One of the study. These research questions are:

- *How effective are the marketing and recruitment strategies used by the DUT to attract the required number of students at first year level that meet and exceed entry requirements.*
- *How effective is the handling of applications made by prospective students to the DUT through the Central Applications Office (CAO)?*
- *How effective are the DUT's student selection processes?*

In this study, the components of marketing, student recruitment and student selections are viewed as interrelated functions, with the common purpose of attracting the requisite number and quality of students for the meeting of enrolment planning targets. It is acknowledged that each of these functions has other wider or more specific purposes than the above stated aim. For example, an important part of marketing is branding and image building for the purposes of securing external funds from donors and the public. In this case study however, the emphasis is on measures taken by the DUT for the intake of students in order to meet the goals of the enrolment plan. The chapter deals firstly with the philosophical and ideological issues regarding the marketing of higher education.

It is apparent from the literature that marketing of higher education is regarded by many as a controversial issue, given the traditional ideals of education as a societal good that cannot be equated with a product that is “sold” to interested “consumers”.

However, marketing has become ingrained in the practices and philosophy of modern higher education institutions not simply because of the inevitability of higher education having to accept marketing practices, but because it can serve to exchange and deliver higher education as a societal good.

In Chapter 2, the effects of globalisation on higher education systems and the dominance of a market-related philosophy have been explained. These factors have created a growing imperative within higher education institutions to compete on the national and international level. Strehl, Reisinger and Kalatschan (2006:24) assert that as a consequence of this competitiveness, marketing, with its allied instruments of market research, product/service policy and pricing, has become a vital feature of higher education management in order to support the positioning of the institution in its environment.

In recent years, the need for marketing strategies has become more evident in South Africa where complications abound with regard to expectations that society as well as government have of higher education institutions. In the context of enrolment planning in South Africa, institutions are under pressure to promote access for students who have been disadvantaged through apartheid planning, and to create more diverse student bodies. At the same time, there are commensurate pressures to enrol more high-ability students in order to meet the output (success) indicators of the enrolment plan. A major challenge is that funding of higher education institutions has been linked to their success. Adding to these challenges is the fact that competition among public higher education institutions and with the private higher education sector has been apparent for a number of years. The chapter includes an exposition of a convincing model for marketing developed by Maringe (2005) which emphasises the unique nature of higher education. Theories around student choice are also explored in this chapter, since it is important that institutions understand the factors that are taken into account by students when they select an institution in which to study.

The selection of students is a complicated issue in the South African context, given the need to promote access to disadvantaged students, while at the same time ensuring that students who are selected are likely to succeed. The chapter concludes with a discussion of selection practices and how these can promote academic and social integration, and hence retention.

3.2 Marketing of higher education: a controversial topic

With the advent of globalisation and practices such as New Public Management being adopted within the public sector, there has been a blurring of the distinction between the operations of private and public organisations. Public higher education institutions have also adopted managerial and market-oriented philosophies and strategies in order to survive. As Strehl, Reisinger and Kalatschan (2006:24) point out, public higher education institutions are “expected” to fulfil market-oriented tasks, which would include the task of “promoting the product”.

However, the notion of marketing higher education is both controversial and contradictory. The complications arise largely because there is general internal resistance to marketisation within higher education, and this resistance has manifested itself in attitudes and public responses to the idea of marketing higher education (Foskett 1995), according to Maringe, (2005:564). A part of the resistance stems from the fact that universities have traditionally been held in high esteem because they not only represented intellectual and scientific advancement for the benefit of society, they have also been the protagonists of wider social and cultural values. These attitudes are also contradictory because going as far back as the eighteenth and nineteenth centuries, universities were observed to be “quickly overcome by the spirit of the age” – referring to the spirit of consumerism, giving universities the reputation of having “a civic notion of utility” (Lobkowitz, 1983:31), according to Maringe and Gibbs (2009:3). This predisposition of universities towards utilitarian concerns have led them, since those times, to produce knowledge and innovation as expected of the

traditional university, but also “new and radical perspectives of society”, which saw the university service the economy, and contribute to industrial capitalism (Maringe and Gibbs, 2009:3). These developments have led to the “timeless crisis” of the university whereby society has been questioning whether universities should be producing wisdom or utility and whether they should be producing both (Maringe and Gibbs, 2009:3). The tension that has resulted from this crisis has become exacerbated in recent times, with the advent of globalisation and the invasion of market forces into higher education. Higher education has become “commoditised” (Maringe and Gibbs, 2009: xiii) in many parts of the world, and is increasingly being perceived as a product, not unlike a piece of furniture with a price tag on it.

Marketing in higher education has therefore been met with mixed responses. Many have embraced the notion, seeing it as essential for modern higher education management, and further, as Maringe and Gibbs (2009:29) advise, as an “inevitable response” to the overarching forces that have necessitated marketing within higher education. Those who have embraced the notion of the inevitability of marketing are perceived to be the administrative staff, the proponents of marketing and advertising in their institutions, as they are responsible for recruiting and retaining students and fundraising (Ancil, 2008:1).

In South African higher education, it can be argued that marketing has been an “inevitable response”. Mzimela (2002:1), points out that tertiary institutions in South Africa had, up to the late 1980s, operated in a regulated environment, with a guaranteed state subsidy income, and predictable student enrolments. As a result, marketing was not regarded as relevant to higher education institutions; it was viewed as a concept relevant only to commercial organisations. With the linking of state subsidies to student enrolment targets and output targets, however, as well as the various other influences on higher education such as greater student choice, institutions are now compelled to place emphasis on marketing and communication

practices. The choices that students have for tertiary study have been expanded by a growing number of private higher education institutions, the opening up of international study opportunities as well the recent differentiation of the public higher education sector into traditional Universities, Comprehensive Universities and Universities of Technology.

Critics of marketing in higher education have based their arguments on incompatibility theory, where there is a clash of values between the worlds of higher education and business (Maringe and Gibbs, 2009:29). These critics are largely perceived to be the academics and students who are supposedly not happy with relating higher education to big business (Anctil, 2008:1). The portrayal of these two polarised viewpoints have resulted in “gross caricatures of the higher education landscape”, states Anctil (2008:2). He argues, however, that the challenge for higher education is no longer in bringing these disparate sides into agreement. The modern day challenge is for the higher education institution to position itself as a social institution, with a mission that clearly is for the public good, while at the same time dealing effectively with the challenges of competition and dwindling public finances, exemplified by the characteristics of the marketplace (Anctil, 2008:2). Thus, while higher education institutions have a unique context where marketing has become necessary, their unique role must be emphasized. Profit maximisation should not be the primary goal of higher education marketing (Lewison and Hawes, 2007: 15).

However, much of the problematic notions of marketing in higher education appear to be associated with how marketing is perceived. It would appear that the traditional understanding of marketing arises from its history, which emphasised the promotional and advertising perspectives. In the traditional view, it is assumed that marketing can address the competitive and financial crisis facing higher education, and that this can be achieved by viewing students as consumers (Maringe and Gibbs, 2009:30). The consumer viewpoint, in which the students demand the narrow status of customers,

where they could “purchase” education or even demand a refund if not satisfied, is unacceptable for the management of higher education.

From the perspective of students as well, the use of hard-sell tactics in trying to market higher education is clearly inappropriate, and is likely to be rejected. The following point made by Treadwell in 1973, according to Strickland (1979:8) is well-made and still relevant:

“Does the Kandy-Kolored-Katalogue, Pepsodent-Smile approach work? It doesn’t seem so. More and more money is spent on catalogues and mailings and parties, and well, selling. And more colleges have empty beds. Why? Why aren’t students being sold? What’s wrong with the new sales approach? The sales advocates have forgotten one simple fact – education isn’t toothpaste. Students aren’t starry-eyed children waiting for some white-knight admissions officer to sweep them off their catalogue-clogged feet into the college of their dreams. Students don’t want the hard sell. They’ve heard it and seen it on television and everywhere else for their entire lives. The hard sell approach not only doesn’t work, it repels.”

Anctil (2008:4) asks the relevant question, “*Should higher education be driven by its mission or the market?*” With business, the situation is simple – the mission is largely shaped by the market. If a product created by the market does not sell, then that product has to be changed to accommodate the market’s needs. However, education is different, and cannot be “changed wholesale to satisfy market demands”, and further, higher education is mission-driven precisely because its mission is not business (Anctil, 2008:4). The answer as to whether higher education institutions should be mission-driven or market-driven lies somewhere in the middle, argues Anctil (2008:4), and is shaped by the economics of higher education in modern times. This argument is based on the fact that state appropriations for higher education have been steadily declining, and hence market income has had to be sought to make good this shortfall in funding. The dependence on external funding has changed the identity and mission of many universities, especially public ones. This has not necessarily been a negative development, as the modern university has become more relevant by being more market-sensitive (Zemsky, Wegner and Massy, 2005), according to Anctil

(2008:4). Within this perspective, higher education should be attentive to the market as well as sensitive to its core values and mission in order to remain viable and advance public trust. Also within this perspective is the notion that the market “supports and propels the mission rather than obstructing it” (Anctil, 2008:4).

Thus, successful marketing of higher education institutions is both mission-driven and market driven. This dual-relationship is supported by Maringe and Gibbs (2009: 30) who advise that the modern concept of marketing is more broad-based, and includes such concepts as delivering value to those with whom the organisation has a relationship. These authors are of the view that marketing is about exchange and delivery of value between those who provide the educational service and those who seek to benefit from it. In this view, marketing is viewed not as a means to an end but as a process of building trust relationships and aimed at the empowerment of the clients or customers of higher education (Maringe and Gibbs, 2009: xii). A compelling part of this argument is the link made by the above authors between marketing and the societal benefits of education. Because education is such an important part of societal development, any failure to deliver its value to the members of society actually denies society its right to self-determination and development. Since marketing is one way that this value can be presented to society, the marketing philosophy should be embraced by higher education and become an integral part of its operations (Maringe and Gibbs, 2009: xii).

3.3 The CORD model for the marketing of higher education

Given the fact that higher education is expanding globally, the need for marketing practices within higher education institutions cannot be under dispute. In a competitive environment, students are faced with broader choices and the programmes offered have become more diverse and heterogeneous. As explained in the previous section, however, the form that marketing takes at higher education institutions is a matter of deep concern. The following observation made by Hassan (2003:79), according to

Maringe and Gibbs (2009:23), illustrates the problem of universities being perceived as a commercial utility because of traditional marketing practices being employed within institutions:

“In the last twenty years, however, [the university] has metamorphosed rapidly into a completely different institution – if such a perpetually mobile business-oriented entity may still be called an ‘institution’. So radically has the university changed that the typical academic, administrator or student from the 1960s and 1970s would barely recognise it today. It might seem to them to be more akin to a marketing company or advertising agency, so concerned is it with profit, products, clients, market share, branding and image.”

The above observation encapsulates the notion that marketing practices within higher education have created difficulties for higher education itself. In this regard, the concept of marketing as “pro-education” (Maringe and Gibbs, 2009:23), which emphasises that higher education is not to lose its mission and focus through such marketing, may be a step in the right direction. Maringe (2005:564) states that higher education marketing is still in its infancy in many parts of the world and that its future is in jeopardy because of a three-pronged crisis. The first part of the crisis stems from the fact that there is still much internal resistance to the idea of marketing higher education, and this has manifested itself in public responses and attitudes to marketing of higher education. Secondly, the sector has failed to identify its core business without which marketing cannot have a firm foundation. The third part of the crisis is that higher education has not “adequately domesticated itself” and therefore continues to rely on the imported wisdom of the business sector (Maringe, 2005:564).

Research undertaken at universities in the Southern African region suggests that the higher education environments here are replicating marketisation forces that have been prevalent in the developed world about two decades ago. Maringe and Foskett (2002: 47), according to Maringe (2005:565), in their reference to marketing within Southern African universities state that *“the universities of the region are at different stages of marketisation and their levels of marketing sophistication and understanding, which*

closely resemble those in the business sector, vary from one institution to another and also from country to country.”

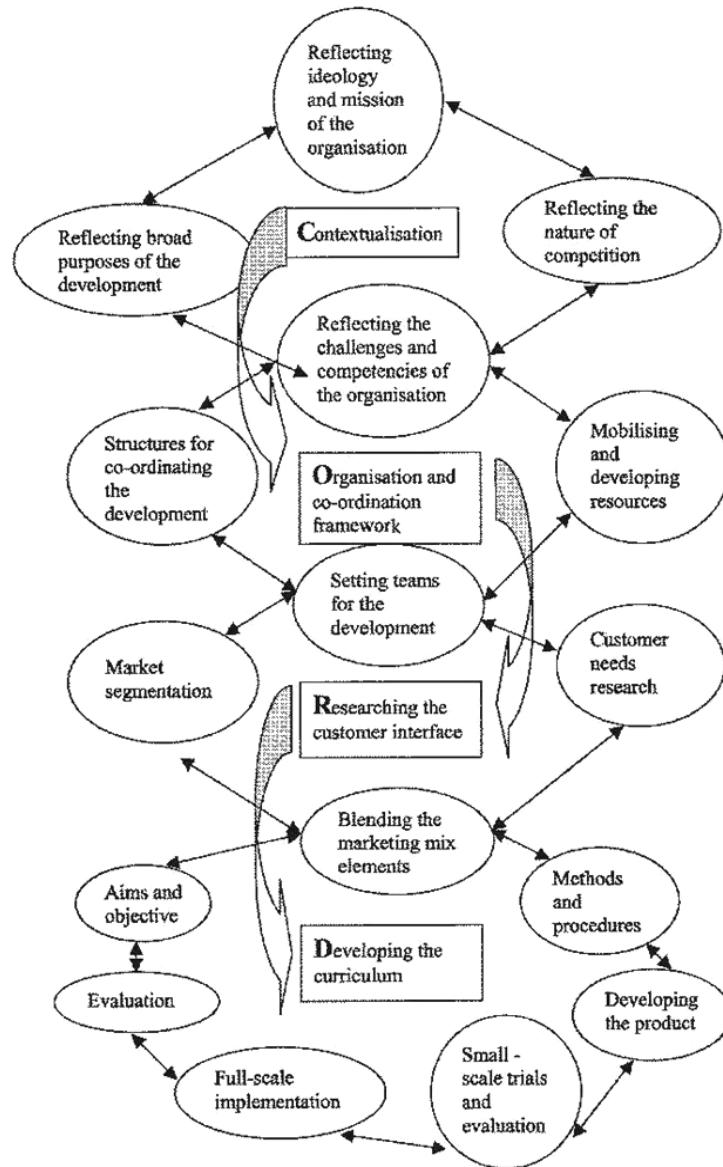
In South Africa, the differentiation of the higher education sector into traditional universities, universities of technology and comprehensive universities as well as the introduction of the Higher Education Qualifications Framework have led to the higher education “product” becoming rather diverse. The need to have a home-grown marketing approach and not to rely on practices borrowed from the business sector becomes more of an imperative taking the complicated South African higher education landscape into account.

The observation by Maringe (2005:569) that the idea of domesticating the marketing into the strategic focus of higher education is threatened by universities’ failure to identify their real core product rings particularly true for South African higher education. A warning bell is sounded by Maringe (2005:572) in his assertion that as long as higher education does not have models of marketing that are derived from its own contexts and circumstances to deal with its unique problems and challenges, marketing will remain a peripheral activity which becomes useful as a responsive mechanism and not as a strategic tool.

The CORD model, which is aimed at domesticating university marketing, developed by Maringe (2005:572-576), is illustrated in Figure 4 (below). This model is based on four distinct principles which are in turn translated into a number of separate but related activities. All of these are aimed at domesticating the marketing idea, and making sure that marketing becomes an integral part of the strategic planning process at universities. The need for a model such as this, according to Maringe (2005:572), is that current research suggests that higher education marketing lacks contextualisation, it is poorly organised, it is far more responsive than strategic, and that its application lacks formal operational guidelines.

The CORD model, standing for Contextualisation, Organisation and coordination, Research and Development, is intended to address the above deficiencies. A key aspect of the model is the “curriculum”, which must be interpreted at the broadest possible level and equates to the core business of the university. The researcher’s interpretation of the curriculum, for the purposes of the study, is that it relates to all that the university offers to students and society at large. An exposition of the CORD model follows, with a discussion on its application to the DUT.

Figure 4: The CORD model (Source: Maringe, 2005:573)



3.3.1 Contextualisation

The importance of contextualising marketing development at a university is that it expresses the need to reflect on the specific context, thus enabling a deeper understanding and appreciation of any proposed solutions. Maringe (2005:572) outlines four key aspects of contextualisation, summarised as follows:

i) Reflecting the broad purposes of the development

Examples of key questions that can be addressed here are:

What is inadequate about the current context?

Why do we need to change?

Why have we not changed before?

Why should we be changing now?

ii) Reflecting the ideology and mission of the organisation

In reflecting on the ideology and mission of the organisation, marketing developers are given a clearer and deeper understanding of the institution's mission under the prevailing context. This will enable marketing to be linked to the overall institutional goals. Key questions to assist reflection of this nature are:

What is the institutional mission?

In what way does the envisaged development contribute to the mission?

Does the current mission adequately reflect prevailing circumstances?

iii) Reflecting the challenges and competences of the organisation

Maringe (2005:572) asserts that the core business of any university, and hence its greatest challenge is the development of the curriculum, which, as already indicated, must be interpreted in the widest possible sense. It is from this "central mission" (Maringe, 2005:572) that all other challenges such as staffing, funding and other resources emanate. Marketing should thus be aligned to reflect the core purpose of the university which is the curriculum. Possible questions that could guide reflection in this area are:

What are the organisational strengths and weaknesses?

What are the opportunities internally and externally that can be harnessed to enhance chances of success in the new development?

How does the envisaged development address organisational needs?

How does this development contribute to the core business of the university?

iv) Reflecting the nature of competition

The university operates in a competitive environment, and marketing implies both the survival in this environment as well as establishing the organisation “outside the shadow of rival institutions” (Maringe, 2005:573). Questions that aid reflection in this area are:

Who has done what we intend doing?

How successful have they been?

What is the nature of demand for our development?

How do we differ from the competition?

In what ways will our development be distinctive?

3.3.2 Organisation and co-ordination framework

Maringe (2005:574) advises that “a frail organisational framework” for marketing exists at universities, and in order to give marketing a more conspicuous presence, the following three aspects need to be addressed. Firstly, there should be appropriate structures for co-ordination and development of the marketing function. Research has indicated that in respect of the marketing function at universities, there is a lack of clear structures for this purpose and poor definition of functions and roles of structures and individuals. (Maringe, 2005:574). This factor limits the marketing orientation at universities. Secondly, the marketing effort should be driven by teams, where there is synergy and a cross fertilisation of ideas. Currently, those performing the marketing role at universities do so in their specific fields, and in isolation of others. Maringe (2005:574) also advises that the marketing effort should be assigned to people with

marketing qualifications or expertise in the area. Finally, in addition to a well-defined structure for marketing, there should also be adequate resourcing of the marketing function as well as proper marketing information systems.

3.3.3 Researching the customer interface

Maringe and Gibbs (2009:53) advise that if the curriculum is the core business of the university, then delivering an appropriate and relevant curriculum is the key to achieving customer satisfaction. Researching the customer interface involves the following questions: i) Who are the customers? ii) Which customers are we going to serve, and why? iii) How best can we meet the needs of these customers? By asking these questions, the following crucial issues of market research are addressed.

i) Market segmentation

This is an activity that allows the accurate identification of needs of a selected group within the customer base. The marketing strategies that arise from this activity can be tailored to meet the needs of specific groups that have been identified.

ii) Customer needs research

According to Maringe (2005:575) customer needs research serves to close critical gaps that exist between the “curriculum developers” and their “customers”. One of these is the gap between real and perceived needs. It is often assumed that the university understands the “marketplace” sufficiently, and hence curricula are designed and developed on that expert understanding. However, it often becomes apparent that the needs of students, employers and the community have not been researched adequately. Thus, within a university, there are problems such as low enrolments in certain programmes, students dropping out or switching between courses, student protests and demonstrations on academic issues. From the perspective of employers and the community, the lack of need or demand for certain programmes could also be an indication of the lack of understanding customer needs. Thus, customer needs research which ensures that curricula are developed on the basis of

real rather than perceived needs can address the issue of acceptance and institutionalisation of programmes at the university.

Another gap is the “quality gap” (Maringe, 2005:575). A common practice at universities is to use internal mechanisms to evaluate the quality of provision, which includes internal committees. However, the argument by Gerson (1993:14), according to Maringe (2005:575), that “the only view of quality that counts is that of the customer”, is highly relevant. Such gaps as discussed above can only be closed when the institution invests sufficient time and resources into researching the customer interface. This will assist universities to adopt a more outward-looking, responsive and sensitive perspective.

iii) Blending the elements of the marketing mix

The marketing mix is a group of elements which researchers have identified to be critical to any marketing activity (Maringe, 2005:575). The seven elements that have been identified from the literature on marketing are product, price, place, promotion, people, physical aspects, and the process. Blending these together affirms that all are important, and no single element is unimportant to the marketing strategy.

It may be possible that certain elements of the institution are valued more highly or viewed differently by a heterogeneous customer base. Thus, ignoring certain elements of the marketing activity can be detrimental to the overall student recruitment effort of the institution. Importantly, such an understanding of the marketing mix elements will only emerge from a full analysis of the customer needs.

3.3.4 Developing the curriculum

With regard to the critical area of developing the curriculum, Maringe (2005:575) proposes an adaptation of the Tyler Rationale model, upon which most current curriculum development models are based.

He advises that while the Tyler model identifies four stages including identification of objectives, deciding on methods and procedures, implementing the curriculum and evaluating it, the CORD model includes two additional steps of small scale trials and full scale implementation before formal evaluation.

3.3.5 Relevance and applicability of the CORD model

The CORD model is highly relevant in the South African context, and could be applied to an institution such as the DUT. An important feature of the model is that its inherent, comprehensive marketing framework stresses the importance of the unique nature of the academic institution, which, as has been pointed out, is part of a heterogeneous landscape. The emphasis on the academic offerings, the curriculum, as the central aspect of the marketing endeavour, is intended to provide clarity of mission to the institution itself, and indeed to the “customer”. The model would thus compel Universities of Technology, for example, to appropriately define themselves, and to indicate their distinctiveness to potential applicants.

Student-institution fit, a concept that will be explained shortly, is enhanced by potential students recognising the distinctiveness of the curriculum, and accepting it prior to their entry to the institution. Viewed in this way, marketing can thus be said to be retention-driven, and play a role in assisting with the problem of dropouts. The emphasis on developing the curriculum contributes to the institution not perpetuating the practice of imparting outdated information at lectures, and instils the notion of a perpetual interrogation of what is taught.

One of the chief benefits of contextualisation marketing and reflecting on the institutional mission is that through these activities, marketing has to be located in the strategic realm of the institution and would no longer be regarded as a discrete operational activity. The aspect of researching the customer interface is also vital in the South African context, given the heterogeneity of the population. As will be shown in the next section, the concepts of student choice, student segmentation and the

approach of differentiated marketing demands a thorough understanding of the student market, which can only be obtained through research.

The CORD model is also useful for the level of detail it brings to the four main dimensions of the model. For example, the aspect of the organisation and co-ordination framework includes the vital issues of teamwork and the need for the institution to invest resources for marketing and research. It also emphasises a co-ordinated approach to institutional marketing.

3.4 Important marketing concepts at higher education institutions

The South African higher education landscape is characterised by diversity. With specific reference to the student population, its heterogeneity is not characterised by race alone, as some of the marketing literature suggests. There are other widespread differences between student populations across institutions, and between students within a specific institution. The differences would include factors such as geographic area of residence, socio-economic status, experience of secondary schooling, age, gender, religion and ability levels, amongst others. In order to be effective, the marketing and student recruitment practices of higher education institutions have to take these areas of diversity into account.

With specific reference to student diversity, the review of the literature on the implementation of marketing and student recruitment at higher education institutions, the two major (and related) themes that occupy centre stage are:

- i) Factors that influence student choice; and
- ii) Differentiated marketing using market segmentation. Segmentation entails the identification of specific subgroups with similar characteristics within the target market. This aspect is regarded as particularly important for the purposes of addressing specific communication and marketing needs of the subgroups.

These issues are discussed in the following sections.

3.4.1 Factors influencing student choice

Maringe (2006:467) asserts that student choice in higher education is an area of growing research interest largely because HE has been transformed from a “domesticated, centrally funded non-marketised entity to a highly marketised and competitive environment”. It is clearly evident that the processes of marketing and student recruitment at universities are affected by greater consumer choice, since students have become more informed, more mobile and are in a position to make judgements about a wider variety of institutions, locally and abroad. As a result of these developments, the theory of student choice becomes important to the shaping of strategies for the marketing of higher education. DesJardins (2002: 533) advises that student choice literature indicates that student enrolment behaviour is linked to the individual characteristics of students, and their preferences about the institution/s they are considering. Thus, studies into student choice are typically based on student demand models, and explain enrolments in higher education as a function of measures that characterise potential enrolees and the characteristics of a relevant set of existing institutions (DesJardins, 2002: 533).

According to DesJardins (2002:533), there are three broad stages of student choice. The first is the formation of college aspirations, which usually takes place from early childhood through high school. This stage is referred to as “pre-search behaviour” by Maringe (2006:468), where students passively register the existence of information about higher education. He adds that institutions need to capitalise on this early decision making as some of the lasting views and attitudes are developed during this stage. The second involves the identification, selection of, and application to, a set of institutions, referred to in much of the literature on student recruitment and marketing as the “choice set”. This stage, which also involves a choice of study disciplines, would usually take place in the senior year of high school. With regard to the stage of choice-set referred to above, Maringe (2006:468) makes a number of valuable points.

One of these is that applicants usually use a variety of sources of information to make up their minds as they look for data relating to a range of decision criteria on choice of institution. It is important to identify these sources of information. He adds that it is important to know when this happens among groups of students, in order to maximise opportunities for marketing by making this information easily available. He also advises that it is important to deal with applicants as swiftly as possible, as the stage of choice set is considered to be a stage of vital marketing activity. The final stage of student choice would involve the period of acceptance (being given offers of places) to a HE institution or a number of HE institutions, and eventual registration with a single institution. It is important to note that students could receive multiple offers of places, since applications are often made to more than one institution. Thus it is important to maintain communication and dialogue with applicants at this stage.

The marketing strategies that are adopted can be more focussed when institutions are armed with reliable intelligence on student choice and the decision-making process. In this regard, a study by Imenda and Kongolo (2002), which was conducted at a time when student enrolments nationally were fluctuating and in many institutions decreasing, is useful for illustrating the need for research on the factors influencing student choice. The above study identified and assessed the factors influencing student choice at Rhodes University. It is acknowledged that Rhodes University, a small, historically white university may not typify a higher education institution in the present landscape, and the students that participated in the survey may not represent the typical South African student. However, the importance of the research is that the approach used for the study can be applied to any university. Furthermore, the fact that Rhodes University has maintained stable enrolments while many other institutions were experiencing a decline is possibly a pointer to the very factors that shape successful enrolment patterns at universities.

Some of the significant findings of the study by Imelda and Kongolo follow, as well as possible implications for marketing and student recruitment.

i) The person making the choice

The study determined that the choice of institution to study at was made principally by students themselves (82% of respondents). Only 10% of parents and guardians influenced choice. An obvious consequence of this finding is that the marketing and student recruitment efforts should be focussed on potential students.

ii) Career-Based Choice

The majority of respondents indicated that:

- Rhodes University offers courses that the respondents always wanted to take.
- Qualifications from Rhodes University offered many career opportunities.

These findings indicate the importance of career opportunities to students, a factor that must be taken into account in respect of marketing messages and recruitment strategies in general.

iii) Financial Considerations

The finding from this study was that financial considerations did not play any role in choosing Rhodes University. The university was chosen despite the fact that Rhodes University does not charge lower fees than other institutions. Further, it was chosen despite the fact that parents of respondents could afford to pay higher fees at other institutions.

iv) Institutional Public Image

Institutional public image played a significant role in influencing students to choose Rhodes University. An overwhelming majority of respondents saw the following factors as important in the decision making process in respect of institutional choice: national and international recognition, good reputation, highly qualified staff, high

standard of qualifications, the qualifications offer prospects of further studies anywhere and perceived guaranteed employment.

v) Stability of Management and Administrative Efficiency

The stability of a university's management and the efficiency of its administrative processes, for example, course registration are important factors considered by students when choosing an institution, according to the survey results. A high number of students agreed that the following factors influenced their enrolment at the university:

- Stable management
- Friendly administrative staff
- Clear, straightforward and smooth admissions and course registration processes
- Little or no corruption in admitting students to the institution
- Little or no corruption in allocating facilities(e.g. hostels) and learning resources at the institution

Regarding the issue of fair and equal treatment at the institution, students were largely ambivalent about this issue, with 43% of respondents indicating that they did not believe there was indeed fair and equal treatment of students.

vi) Language

Imenda and Kongola (2002:228) state that the language of instruction is an important part of the political education discourse in South Africa at present, and is likely to remain for some time. (This aspect is also of much relevance to this case study of the DUT, according to key personnel interviewed). In the Rhodes University survey, 87% of the respondents indicated that the language of instruction was familiar to them, 6% indicated that the language was not familiar, and 7% were undecided.

The researcher established from the literature review that in the international context, the factors influencing choice of students vary between institutions, between geographical locations and between the numbers of communities in countries. In the United States of America, researchers have identified a huge variation in the number of choice factors. For example, one survey of the literature on student choice identifies 27 studies with less than 10 factors influencing student choice, and there are 7 other studies with more than 20 factors (Briggs, 2006:709). The factors commonly associated with university choice in the USA, according to Martin (1996:3), are academic reputation, location of institution, institution size, costs of tuition and specific academic programmes.

The characteristics of the students themselves also influence university choice. For example, Australian studies have shown that career preparation, academic reputation, student's socio-economic status, school type and academic merit are factors influencing university choice (Martin, 1996:3).

Research into student choice, as referred to in the above studies, could be of much value in the South African context. It is important to acknowledge that there are factors of student choice (as identified from the abovementioned studies) that are usually considered by institutions such as the DUT to be "not so important" from a marketing and student recruitment perspective. Factors such as administrative efficiency, a smooth registration process, perceptions regarding corruption and a stable management are usually perceived to be external to the marketing and student recruitment efforts, yet these factors were rated highly by students. It could be inferred from studies such as those referred to above that confidence in institutions and factors influencing student choice are not only dependent on slick marketing and expensive road shows and career fairs. In this regard, Grabowski (1981:3) is of the view that there are many institutions that embark on marketing in a haphazard way. He asserts that the results of such marketing are poor, because there is a lack of

appreciation and understanding of the complexity of marketing and its role in a university. In his view, marketing is not “a series of discrete and isolated activities, it is an integrative operation” (Grabowski, 1981:3). Marketing in this perspective ought to include the ongoing attempts by institutions to be considered well-functioning in the minds of the public, but more importantly in the minds of students, who apparently have a strong influence in determining which institution they eventually choose. In any event, the intelligence derived from institutional research and the shaping of marketing and student recruitment strategies in accordance with the findings of such research will assist institutions with their enrolment goals.

A word of caution on marketing practices with the purpose of influencing student choice must be inserted at the conclusion of this discussion. It must be noted that students form expectations about what to expect from university life and these are based on images they have in their minds when they apply for admission. Bearing this in mind, any inaccurate or erroneous information communicated to applicants through student recruitment activities and institutional publications, is likely to lead to the formation of expectations of their higher education experience that are unlikely to be met (Braxton and McClendon,2001:61). Marketing for student recruitment should therefore aim to communicate accurate and truthful information about the institution.

3.4.2 Differentiated marketing

According to Grabowski (1981:10), the approach of “differentiated marketing” in higher education entails the identification of specific markets and submarkets, which in turn will require specialised, personalised communication strategies. He adds that such “student segmentation” would enable the institution to use its resources more efficiently by focusing on potential students whose interests and characteristics would best match the institution (Grabowski, 1981:10). Institutional intelligence derived from such analysis would determine “student-institution fit”, which, according to Bontrager (2004:9), is the primary goal of student recruitment and refers to the extent

to which a student's academic preparedness, career aspirations and general expectations of the institution match what the institution has to offer.

The concept of student-institution fit is also highly relevant in the context of institutions attempting to minimise dropouts, since students who are not easily integrated into the institution are more likely to drop out of studies than those who are. In this regard, Grove (1992:67) makes the connection between recruitment and retention, by referring to institutions that use the strategy of "retention-driven" marketing in order to address problems of retention. Martin (1996:5) points out that the literature on student choice indicates that students with weak, inaccurate choice sets are at risk of choosing the wrong institution, which results in them becoming dissatisfied with the institution, and subsequently withdrawing.

A useful clarification of the terminology used in marketing is provided by Lewison and Hawes (2007:16). According to these authors, "*mass marketing*" refers to the strategy that seeks to attract "anyone and everyone" with a single, broad-based marketing appeal. This was the strategy used decades ago at higher education institutions in the USA, where there was insufficient understanding about different segments or students, and the need for different marketing approaches for different segments. This approach treats the entire market as a target, and is characterised by mass production and distribution. These authors further clarify that "*undifferentiated marketing*" and "*product differentiation*" are two variations of mass marketing. Undifferentiated marketing ignores any market differences and entails the development of a product/offering for the entire market. Thus, the curriculum under this approach would typically be a general one – paralleled to that in the classic liberal arts college - intended to serve any student within the mass market. Product differentiation simply attempts to use any distinguishing characteristics of the offering (real or imaginary) and market these using promotional appeals. An example of this would be to promote the fact that a degree is offered on a trimester basis rather than on

an annual basis when the market is dominated by the latter approach. The differences are artificial and not significant enough to inform student choice (Lewison and Hawes, 2007:16). *Target marketing* requires a focus on one or more selected market segments with the intention of developing separate marketing approaches for each segment. *Differentiated marketing* involves the decision to operate in two or more segments of the market.

In South Africa, the diversity of would-be entrants to higher education makes a differentiated approach to marketing very necessary. Mzimela (2002:2) argues that the South African education market is not homogeneous; it has “permutations of heterogeneity” and that for as long as South Africa has an apartheid legacy which remains powerful, the approach to student recruitment has to be “informed, calculated and heterogeneous”. A highly relevant study into the identification of subgroups with similar characteristics within the prospective student target market in the Cape Metropolitan area was conducted by Bonnema and van der Waldt (2008). These authors point out that the new technologies and new forms of media compel tertiary institutions to engage in proper market segmentation and positioning in order to remain competitive. Their study also identified the preferred information sources and information needs of prospective applicants when they are deciding on which institution to select.

The study by Bonnema and van der Waldt identified five main information themes relevant to prospective applicants, namely: Jobs (employability aspects), Courses (aspects of course content), Student Life (overall student experience), Sport (sporting aspects) and Money (affordability). The most valuable part of the above research study, however, was the identification of the following five main subgroups with unique characteristics. Detailed investigation by these researchers into the communication source preferences of prospective higher education students has made

it possible to develop unique branding and communication strategies for each of these groups living in the Cape Metropole and reflecting its demography.

Subgroup 1: “*have lots*” – the members of this subgroup comprise predominantly English speaking prospective students, are mostly White or Coloured, and come from wealthy homes. They study at elite schools, and would prefer to study at a traditional university rather than at a University of Technology (UoT) or College. Their main considerations in selecting a tertiary institution are employability and specific courses of study. This group places reliance on direct sources (information from the institution itself), and does not value media sources. Social sources of information e.g. friends and family are also valued by this group, but not to the same extent as the direct sources.

Subgroup 2: “*aspiring have lots*” – this subgroup shares similar lives and aspirations to the “have lots”, but are not as affluent. They are English speaking, are mostly White or Coloured, and attend affluent schools as well as more affordable schools. Their choice of a tertiary institution includes a UoT, a College or a traditional university. They are just as serious and ambitious as subgroup 1, but affordability and employability rank higher as factors of choice in comparison to subgroup 1. This group also values direct sources of information, but are more trusting of media sources than subgroup 1.

Subgroup 3: “*university lifers*” – this subgroup is more interested in the social aspects of studying at a traditional University rather than in the benefits of education they would receive. The group comprises mostly Coloured members, followed by White and African members. The experience of being at university is the main motivation for attending the institution. Attending a traditional university is preferred to a UoT or College. Factors such as sport and student life mean far more than employability and affordability. In terms of communication sources, this group prefers social sources especially from those who can provide a personal description of the experience of attending a particular institution. This group does not trust media sources.

Subgroup 4: “*little direction*” – this subgroup displays very little motivation, and has little direction and knowledge in respect of tertiary education. This group is largely Coloured and African, is intimidated about the thought of studying further, and is more likely to attend a College or UoT rather than a traditional University. Their knowledge of study courses is limited, and they rate sport as the most important reason for tertiary study. This group will not approach an institution directly, but will rely on social sources and media for information.

Subgroup 5: “*new lifers*” – this subgroup comprises members whose main aim is to escape the disadvantaged circumstances in which they find themselves, and a tertiary education is regarded as a means to accomplish this aim. They rate student life as most important. This group comprises mostly Coloured and African members and has more Xhosa speakers than the other groups. As with subgroup 4, this group will not approach an institution directly, but will rely on social sources of information.

Bonnema and van der Waldt (2008:324) assert that information gleaned from research such as this gives institutions an indication of the type of marketing communication that institutions would need to develop, in order to attract members of each segment. For example, the fact that not all the subgroups depend on the same communication sources means that a communication plan needs to be adapted to address the specific needs of each subgroup.

There are higher costs associated with differentiated marketing, however, posing the “classic dilemma” to higher education institutions when deciding on the marketing strategy to be adopted (Lewison and Hawes, 2007:17). The challenge for institutions is to seek an appropriate balance between serving the communication needs for its heterogeneous student population (if this applies to the higher education institution) and its ability to operate efficiently.

3.5 Admissions and selection practices

Student selections and admissions practices adopted by institutions are of importance as they determine whether a student decides to enrol or not. Since these practices play a significant role in student choice, they could be used strategically to determine student-institution fit, a factor that contributes to the retention of students.

3.5.1 The goals of student selection

The student selection and admissions practices adopted by institutions are important to the goal of enrolment stability. Apart from simply striving to meet headcount enrolment targets, it is critical that the “right” students are selected. As indicated previously, institutions have been placed under immense pressure to meet enrolment planning targets, including that of higher graduate output. Hence, the students that are selected should be those that have the potential to succeed. They should preferably not drop out of their studies, or change courses midstream. The decision to admit students is therefore not one that should be taken lightly by institutions, as there are social and financial costs attached to poor decision-making by institutions.

The social and financial costs would also apply to the student. In this respect, it must be remembered that an application to a university is in many instances an emotional one for a school leaver. Along with a specific application to a university are usually aspirations of a young adult that have been built for many years, starting from early schooling years. These aspirations are fuelled by the parents and close associates of the applicant. The application therefore represents hopes and dreams of a better future, made possible by a good career that could be attained by a higher education qualification. Selection decisions should ideally be premised on the belief that these aspirations can be met.

In South Africa, the emotional connotations of applications to higher education are especially applicable, given the apartheid legacy and the fact that education is

regarded by many previously disadvantaged South Africans as the route to a more prosperous future. Higher education is viewed as a key allocator of life chances and therefore ought to play an active role in achieving equity among South African citizens through the distribution of opportunity and achievement (RSA, 1997). The South African Higher Education Act (Act 101 of 1997) holds the higher education institution accountable for the selection of students. The Act stipulates that each higher education institution should have an admissions policy which, inter alia, must provide for redress of past inequalities and may not unfairly discriminate in any way.

Thus, the goals of promoting access and at the same time meeting efficiency targets complicates the admission of students in South Africa, given the large numbers of students from disadvantaged backgrounds that presently seek admission to higher education. The complexity is most apparent to the academic department offering the programme, where usually, a designated staff member within the department has to make the selection decision. The first part of the complexity is that selection has to serve the aims of the programme. In addition, selection entails the identification of students with the potential to succeed in the academic programme, although in reality many selected students do fail, and rejected students may have been able to pass.

However, there are also pressures to enrol a diverse group of students, and to ensure that equity aims are considered. Zaaiman, Van der Flier and Thijs (2000:3) point out that the process of selection is also usually required to be fair, effective and efficient. These authors explain that an effective selection mechanism would result in a high percentage of successful students, and would reject as few potentially successful students as possible. Where the selection mechanism involves testing, the effectiveness of the selection process necessitates a high predictive validity of the test as well as the use of a cut-off score which enables selection to proceed systematically. Effectiveness is enhanced by a large applicant pool that is varied in ability around the required ability level (Zaaiman, Van der Flier and Thijs, 2000:3).

The issue of fairness in selection is a more complex one and can be open to political and legal challenges. This complexity is explained by Zaaiman, Van der Flier and Thijs (2000:3-4) to refer to the fact that fairness of selection requires both a psychometric as well as a contextual evaluation. The latter aspect is, in many instances, a “judgement call” and is open to elements of subjectivity. Institutions have to deal with the following dilemma: should there be only a selection of students with the highest probability of success, then under-representation of disadvantaged groups could be a result. In addition, selection of a greater number of disadvantaged students, which may be part of the university’s mission, may lead to a smaller probability of success in the selected group, while qualified, privileged applicants may to be rejected.

3.5.2 The challenge of selection based on South Africa’s school leaving examinations

All higher education institutions in South Africa face the major challenge of how to deal with the issue of the under-preparedness of learners who exit the school system to pursue further studies. The issue of the South African school leaving examinations as an indicator for student selection has to feature in any discussion on the implementation of enrolment plans, since performance targets are inevitably affected by this.

How effective is the “Matric” or Senior Certificate (from 2008, the National Senior Certificate or NSC) examination as a selection tool for admitting applicants to higher education? Much research has been undertaken on this question, most of which points to the problem of the old Senior Certificate not being a good predictor of success in higher education (see, for example, Cosser 2006:260). This will briefly be explored further, along with the problem of the questionable quality of education being delivered at schools, which must impact on the quality of the intake at higher education institutions. In raising the question of effectiveness of matric, this research study acknowledges that a new exit school qualification was introduced in 2008. From 2008, the outcomes-based National Curriculum Statement forms the basis of syllabi at

all schools for all grades, and successful Grade 12 learners of 2008 were the first to be awarded the National Senior Certificate (NSC). The NSC is a qualification intended to “raise the bar in terms of its cognitive demand” (Cronje, 2007:2). However, the introduction of the New Curriculum Statement and the NSC should not blur the discussion at hand, since it is too soon to say whether this will lead to significant improvement in learners’ preparedness for higher education (Blom, 2006:5). That there is no “quick-fix” to the problems appears to have been acknowledged in the address by the KwaZulu-Natal Education MEC, Ina Cronje, on the occasion of the release of the 2007 Senior Certificate results. The MEC is quite categorical in her reference to the “Class of 2020” that interventions were to commence vigorously for Grade R learners in 2008 with a view to ensuring that the problems experienced currently would not be apparent when the results of the 2020 cohort of matrics are announced (Cronje, 2007:4). Thus for the purposes of this study, the question of the matric examination, as it is still commonly referred to, will have relevance for current enrolment planning initiatives at institutions such as the DUT. It is also likely to have a significant impact on such initiatives for some years to come, despite the introduction of the NSC.

Higher education institutions are forced to place much reliance on the results of this high stakes examination in order to determine the eligibility of applicants for admission. In attempting to meet specific input indicators or targets of their enrolment plans, individual institutions make assumptions about the “predictive validity” (Foxcroft and Stumpf, 2005:11) of the Senior Certificate examination as a whole, and about applicants’ performance in the gateway subjects (such as Mathematics and Physical Science) to determine their potential to succeed. The 2004 Umalusi Report on the Standard of the Senior Certificate Examination states, in its reference to the purpose of matric:

“The Senior Certificate (SC) Examination, or Matric, as it is popularly known, represents a high point of learning in South Africa. Most young people are encouraged to aspire to it. It holds great significance as a rite of passage, as it

marks the culmination of twelve years of schooling. It is still, by far, the most popular determinant of access to higher education and increasingly, though to a lesser extent, to the world of work. As a result of its “high stakes” nature, the Senior Certificate examination attracts a great deal of public interest” (Umalusi, 2004:2).

The country is undoubtedly making significant strides in its attempts to increase the number of learners that pass the school-leaving examination. The official DoE report that accompanied the official release of the 2007 Senior Certificate examination results included the following points, inter-alia, under the heading *Matric 2007 – The good news*:

- *“Increase of 16 714 learners passing Grade 12 in 2007, 16 714 more than in 2006 and 91 000 more than in 2001.*
- *Increase of 13 559 more learners passing mathematics than in 2006 and 37 000 more than in 2000.*
- *Overall, 149 000 learners passed Mathematics and 115 000 passed Science.*
- *85 454 passed with endorsement – 400 fewer than in 2006.*
- *More learners than anytime since 1996; 368 217 full time Grade 12 learners passed the 2007 Senior Certificate examination” (RSA, 2008a).*

Despite the above, Foxcroft and Stumpf (2005:11) refer to the “tensions that have revolved around Matric for decades”. While the school system would understandably be pleased with the increase in numbers passing the examination, higher education institutions would be more interested in the predictive validity of the examination as a selection tool for entry, since the results are used by them to predict academic success (Foxcroft and Stumpf, 2005:11).

School leavers form the major pipeline to higher education institutions, especially so in South Africa where recognition of prior learning is still a minor factor in enrolling more mature individuals. It is therefore not surprising that there is much concern about the quality of students eligible for admission to study, but who then have great difficulty in coping with the rigours of tertiary education. This concern was highlighted in a study conducted by the Higher Education Admissions Projects of the

then South African Universities Vice-Chancellors Association (SAUVCA) and the Committee of Technikons Principals (CTP) in 2004 at the University of Cape Town (Kivilu, 2006:35). Here, a test covering the Grade 11 mathematics syllabus was used to assess basic mathematics competency of 322 students. Alarming, 30% of these students failed, scoring under 49%, and approximately 20% scored between 50-59%. The findings of this study show a “mismatch between the student’s competencies and the high matric marks they obtained to get admission to the university” (Naidoo, in Kivilu, 2006:35). This is disturbing, but not surprising when one considers that in studies such as TIMSS (Trends in International Mathematics and Science Study) South African pupils performed as badly in 2003 as they did in 1999. South Africa came last in Grade 8 Science and Mathematics out of 50 countries (CHE, 2007:34).

A report recently released by the Organisation for Economic Co-operation and Development (OECD) makes the disturbing observation that “there are doubts about the quality of education being provided to the majority of students in South Africa” (Independent Online, 15 July 2008). The report also states that in the important areas of mathematics and sciences, the goals that had been set by government are not being met.

In 2008, a pass rate of 62.5% was achieved, compared with 65.2% in 2007. In the province of KwaZulu-Natal (KZN), a pass rate of 57.8% was achieved, and, according to the KZN MEC, Ina Cronje, this pass rate represents “*a baseline with which we can compare future performances at Grade 12 and any comparison with previous years would be based on a false premise*” (Mngoma: 2008). The significance of the 2008 school leaving results to higher education are the following levels of achievement. 107 642 learners (20.2%) qualified for admission to bachelor’s studies, and 124 395 learners (23.3%) qualified for admission to diploma studies (RSA, 9:2008b). In KZN, 24 930 learners qualified for admission to degree study (RSA, 11:2008b), a group that the DUT, despite primarily offering diploma qualifications, would be interested in

from an enrolment point of view. A total of 63 038 learners attained over 50% in their Mathematics passes, and of these, 14 927 learners were from KZN.

3.5.3 Optimising selection decisions

Zaaiman, Van der Flier and Thijs (2000:4) make the important point that selecting a student carries as much responsibility as rejecting one. In the context of the above discussion on the South African school leaving examination not being a reliable predictor of academic success as well as the under preparedness of entrants to higher education, the point is particularly valid. Quite often, however, in the discussion on high failure rates in South African higher education, the above issue is linked to the question of what higher education is doing to adequately support disadvantaged students after they are admitted to studies. It is generally regarded as unethical to select students who have little chance at succeeding in their course of studies. If selection of students is viewed as a contract, then every selected student must have a reasonable expectation of success after admission to a study programme (Zaaiman, Van der Flier and Thijs, 2000:5).

Thus, issues of access and selection are very closely linked to the issues of retention and success. Ways of addressing this at institutions usually take the form of selection tests aimed at detecting strengths and weaknesses in specific learning areas of the applicant. In addition to selection tests, admissions practices could play a significant role in fostering academic and social integration of students, and in so doing, assist with student retention and success. These practices relate to academic advising and clear communication to students on critical issues relating to their studies at the time of registration.

3.5.3.1 Selection tests

Viewed in the context of the capping of student numbers in South African higher education enrolment planning against the growing demand for places, the fairness of selection tests for admissions purposes is an important issue. Zaaiman, Van der Flier

and Thijs (2000:5) assert that in attempting to maximise fairness, two major factors play a part. On the one hand, the selection test has to be closely related to the teaching programme. On the other hand, the selection test and the teaching programme should fit the level of preparation of the kind of applicant the programme is intended for. These authors further inform that in addressing the issue of fairness in developing a test, it is vital to know what has to be assessed, as well as to know what should not be assessed.

In South Africa, after the introduction of the National Senior Certificate (NSC), many higher education institutions have been concerned about the predictive validity of this school leaving examination qualification for admissions purposes. The development of the National Benchmarking Test (NBT) has been a natural consequence of this concern, and is being subscribed to by many universities in the country. National university entrance tests are used in many countries, and typical examples are the Scholastic Aptitude Test (SAT) and the American College Test (ACT) which are used extensively in the USA (Herman, 1995: 264). These tests, however, have their advantages and disadvantages. According to Herman (1995:264), there is little unanimity by researchers on the reliability and validity of these tests as measures of prediction of academic success. In South Africa, many institutions, including certain departments at the DUT, make use of diagnostic selection tests. These are not necessarily intended to exclude students on the basis of any learning deficiencies; their main purpose is to assist in placement of students, as well as to record areas that may need attention in intervention programmes. An example of such a test is the Standardised Assessment Tests for Access and Placements (SATAP) which is used by the DUT.

3.5.3.2 Admissions Practices

The model typically used for student selection in South African higher education is similar to the model used traditionally by most institutions in the United Kingdom

(UK). McClaran (2003:159) advises that the traditional model for admissions at most UK universities entails the use of a designated member of academic staff in each department, the “Admissions Tutor”, who is given admissions duties as part of his/her responsibilities. The Admissions Tutor works to a greater or lesser extent with administrative staff in the university’s Admissions Office and the Faculty, but the final responsibility for considering applications received and making offers to applicants, rests with the Admissions Tutor. The exercising of judgement over who should be admitted is regarded as an “important expression of legal autonomy enjoyed by UK HEIs and, within each institution, of the academic autonomy claimed and jealously guarded by the various faculties and departments” (McClaran, 2003:159).

The traditional model of admissions in the UK has come under strain in recent years, however, owing to the need to recruit the appropriate numbers of students in terms of targets set by central funding councils (McClaran, 2003:162). Institutions in the UK are presently reviewing their practices, owing to pressures from funding councils to meet enrolment targets, and adopting the professional model of admissions.

Also contributing to the move towards professional admissions practices in the UK is the realisation that the dissemination of selection decisions to applicants by Admission Tutors within academic departments is generally slow. McClaran (2003:165), in comparing the centralised practices at institutions in the USA with the admissions practices at HE institutions in the UK, points out that some institutions in the USA will communicate a decision within 24 hours, whereas with the traditional UK model of admissions, a decision is communicated in nearly seven weeks. As a result, there has more recently been a reluctance within many UK universities to leave admissions decisions in the hands of Admissions Tutors located all over the university, and the recent practice has been to allocate these responsibilities to a central Admissions Office. Many institutions in the UK have developed coherent strategies and institutional goals for their recruitment and admissions activities, and these practices

have led to this trend being referred to as the “professionalisation” of higher education admissions (McClaran, 2003:164).

In South Africa, it is tentatively submitted that the complexities involved in selection decisions, as discussed in the previous section, may prohibit the total delegation of decision making to Admissions Offices, as contemplated in the UK. However, such a conclusion cannot be arrived at without studies of practical examples. In a desirable South African admissions model, it is submitted that more important than the rapid communication of selection decisions, as described in the above comparison of UK and USA admissions models, is the extent to which the practices within the model contribute to the academic and social integration of students. It is argued that if the admissions model and its inherent processes make a contribution to social and academic integration of the accepted students, then it also makes a contribution to their retention and eventual success.

One of the activities during the admissions process that could foster social and academic integration is academic advising. Braxton and McClendon (2001:58) recommend that while a basic responsibility of academic advisors is to assist students in the selection of courses, they should also encourage their advisees to consider the teaching practices of faculty members in the selection of courses. In this regard, the aspects of organisation and preparation as well as instructional skill and clarity have been found to be important issues to new students, and may influence social integration and indirectly influence persistence in a positive manner (Braxton and McClendon, 2001:58). Rating lecturers on aspects such as the above and communicating these to potential students, is unlikely to be met with enthusiasm by underperforming staff. However, one of the consequences of students considering, even in part, the above kinds of issues in choosing a programme of study, is that academic staff are compelled to “up their game” in order for their programmes to remain viable. Such advising to students, however, is more likely to occur in the

professional admissions model rather than the traditional one. Another important activity during the admissions process that could contribute to academic and social integration of students is the communication of rules and regulations that are important to students. Braxton and McClendon (2001:59) indicate that there is much research to suggest that keeping students well informed of rules and regulations at the institution will have a positive influence on their social integration and persistence.

3.6 Summary

One of the critical perspectives provided from the literature review into higher education marketing is that of ensuring that a domesticated or “home-grown” approach is utilised, rather than a reliance on the imported wisdom of the business sector. There is consensus that the values and ideals of higher education can be effectively conveyed to society through such an approach. There are also many valuable aspects of the CORD model that can be applied to institutions in the diverse South African higher education landscape. Perhaps one of the most important features of the CORD model is that it compels institutions, through the requirement of contextualisation, to locate the marketing initiative at the strategic level rather than only at the operational level.

Given the heterogeneity of South Africa’s student population, institutions would do well to utilise a differentiated approach to marketing. The chapter has included a discussion of carefully chosen studies that illustrate the advantages of doing so. An understanding of the factors contributing to student choice could assist in directing marketing efforts, so that funds are not unnecessarily spent on a mass marketing approach alone. In the discussion on student selection, the chapter has highlighted a number of challenges that face institutions, particularly the under-preparedness of first-time entering students. In this area of student enrolment management, it is vital that these challenges are acknowledged and addressed by institutions.

CHAPTER FOUR

LITERATURE REVIEW: GRADUATE OUTPUT AND THE PROBLEM OF STUDENT RETENTION

4.1 Introduction

The literature review in this chapter serves to provide a contextual understanding of various inter-related theoretical issues that are linked to the research questions for Units of Analysis Two and Three. One of the research questions in Unit of Analysis Two deals with the implementation of the output indicators of the enrolment plan:

How is the DUT positioned to meet the output targets of the enrolment plan viz. the success rates, graduation rates and throughput rates? The primary objective of student enrolment planning is graduate output. Arising from the above question, the first part of the literature review in this chapter serves to provide a theoretical understanding of the significance of graduate outputs to the developmental goals of a country with special reference to South Africa.

A factor that threatens the goal of improving graduate output is a high dropout rate at higher education institutions. Unit of Analysis Three deals with the problem of student retention at higher education institutions with the following research questions forming part of the case study:

Why do students leave the University prematurely?

What are the present activities of students who have dropped out of studies from the DUT?

Do the dropout students wish to return to the DUT to continue with their studies?

The problem of student retention is given insight by the second part of the literature review. South African and international research contributions on the issues of retention and student integration are cited.

4.2 The significance of graduate output

In higher education, the objective of increasing graduate output in South Africa “merits foregrounding as a central focus of the sector’s work” (Council on Higher Education (CHE) 2007:6). This objective is critical to the student enrolment planning initiative, in particular, the targets relating to the number of graduates in different fields of study. Section 2.5.2.3 of this study, in summarizing the implications of the National Plan for Higher Education (NPHE) in respect of enrolment planning, outlined the priorities for attaining the strategic objective: *To produce graduates with the skills and competencies necessary to meet the human resource needs of the country.* These priorities, as set by the NPHE, includes increasing the participation rate to meet labour market needs, to increase the number and quality of graduates, to ensure that graduates possess the requisite skills to participate in the 21st century economy, and to ensure that the efficiency of the higher education system is improved to meet the need for increasing the number and quality of graduates.

A high graduate output is particularly significant to South Africa when considering the fact that countries which have managed to sustain high levels of economic growth as well as improvements in the living standards of the masses of their populations are those countries which have prioritised higher education and training as an agent of socio-economic change and development (CHE, 2007:5). For developing countries, graduate output is of particular significance because of the dire need for high-level capabilities in order to address social problems. Also, in the context of economic globalisation, its significance lies in the imperative of establishing a productive niche to avoid falling behind in terms of global competitiveness (CHE, 2007:5).

The provision of graduates is also related to HE’s role in contributing to human resources development (HRD). In the area of human resource development, Subotsky (2003:353) asserts that while higher education has a number of functions, its central role is to provide the number and range of graduates, in the fields and levels required

for a rapidly changing labour market. In order to contribute to HRD, the graduates from universities must possess high level knowledge, skills and generic competencies which are relevant to the country's development priorities (Subotsky, 2003:353). Addressing the issue of graduate outputs for the needs of the labour market does not entail a "mechanistic response" from the higher education sector. Such a mechanistic response entails attempts to meet quantitative output targets obtained from the forecasting of skills needs, a practice traditionally used in "manpower planning" (CHE, 2007:6). The practice of manpower planning in the South African context has been discredited, however, since the issue of the output needs of the country is far more complex. Its complexity arises from the need to reconcile the strategic direction of the country with much uncertainty around the future output needs. (see for examples Subotsky, 2006 357; CHE, 2007:6). A more pragmatic approach, according to Subotsky (2003:357), entails the identification of broad areas of skills shortages, and through interaction with business and other social partners, attempts should be made to more accurately identify the optimum mix of knowledge and competencies required in the workplace.

Critical to the matter of graduate output is the issue of the employability of graduates. The employability of graduates from the higher education sector is linked with matters of quality assurance within the sector, in particular the principle of "value for money" (Bhengu, Cele and Menon, 2006:844). The quality of graduates emerging from higher education institutions is a vital concern of the higher education sector as well as of government, the business sector and civil society as a whole. Singh (2006), according to Bhengu, Cele and Menon (2006:849), asserts that there is a "growing power of stakeholder and 'consumer' demand for clear and accessible information on higher education quality given the great variations in higher education quality". Bhengu, Cele and Menon (2006:854) make the point that while the state uses the indicators of graduate output and research output of public institutions as indicators of efficiency, from a labour economics perspective, the concerns of quality are related to "fitness of

purpose and fitness for purpose in terms of employability”. In this regard, the employability of a graduate is determined by the extent to which the graduate displays those attributes that employers deem necessary for the effective functioning of their organization (Griesel: 2002), according to Bhengu, Cele and Menon (2006:854). Thus, a quantitative measure of growth in the provision of graduates to the labour market is limited, and has to be balanced by “asking questions about quality of graduates and of research” (Bhengu, Cele and Menon, 2006:854).

The role of higher education in producing graduates is not limited to the needs of the labour market, but extends to the needs of society as a whole. There is an important need for graduates making a contribution to the quality of leadership at all levels and in all sectors of society for the purposes of fostering social justice and economic development (CHE, 2004:19). In order to fulfil these complementary roles, higher education graduates need to possess high levels of intellectual rigour, of analytical capacity, self-motivation, independence of thought, basic research skills and a capacity and mental aptitude for innovation (CHE, 2004:19).

The significance of graduate output to the country’s development and progress has been outlined briefly in the preceding paragraphs. For the purposes of this study, the link between student enrolment planning and the goal of producing the appropriate quantity and quality of graduates should be acknowledged. The urgency of introducing and monitoring student enrolment planning by government can be clearly appreciated when considering that major difficulties are being experienced by the South African higher education sector in meeting the objective of increasing graduate output. The difficulties relate to discrepancies in the participation rate in higher education between the different population groups, as well as difficulties relating to the overall performance of students in the sector. As the CHE (2007:5) submits, “*Prima facie, the high level skills shortages that have been identified are one clear indicator that the needs (of the country) are not being met, and the concurrent existence of graduate*

unemployment points to the level of mismatch between output and the requirements of the economy.” An explanation of the difficulties referred to by the CHE is provided in the following paragraphs.

One of the objectives of student enrolment planning is to ensure that the participation rate in higher education is at an appropriate level, especially participation by the Black African population group. A measure that is commonly used in this regard is the gross participation rate, which refers to the total higher education enrolment (of all ages) expressed as a percentage of the 20-24 age group (CHE, 2007:10). The issue of the gross participation rate is problematic, as the following table shows:

TABLE 10: Gross participation Rates (Source: CHE, 2007)

Gross participation rates : Total enrolment in 2005, as percentage of the 20-24 age-group	
Overall	16%
White	60%
Indian	51%
Coloured	12%
Black	12%

Considering the attempts to widen access to higher education, the overall gross participation rate is low, and indicates that since the report of the NCHE, the overall participation rate has not improved, but worsened. The significance of the low gross participation rate to the goal of increasing graduate output appears obvious, but does not seem to be a major factor in student enrolment planning at present. The CHE (2007:11-12) states that there are a number of implications of the low gross participation rate. The first implication is that while there is a substantial body of opinion that a significant proportion of students admitted into higher education are “not fit” to be admitted (CHE, 2007:11), the fact that there is a low participation rate makes it an imperative that the sector is able to accommodate at least those students who qualify for access, in the interests of development. This comment is particularly

relevant for the black and coloured intakes, where the great majority of these students are “in the top decile of their group in terms of achieved performance in prior learning” (CHE, 2007:11). The comment must also be seen in the context of the cohort that entered school (Grade 1) in 1995. Of the over 1.6 million learners who entered Grade 1 in 1995, only 21.1% obtained a Senior Certificate, and only 5% (85 830) of the cohort obtained a Senior Certificate with endorsement (eligible for admission into degree studies) (CHE, 2007:33). The gross participation rate of Blacks is particularly disturbing, given the need for more Black graduates to enter the economy. The CHE (2007:11) makes the valid comment that it is a cause of much concern for political, economic and social reasons if the sector is unable to accommodate a higher and more equitable proportion of the majority population group.

The second implication of the low gross participation rate is that while the Department of Higher Education and Training does not regard overall expansion of the system as a priority, there is an urgent need for increased participation in the science and economic-based fields in order to meet national needs. If such growth is to occur, then a large number of students who are not currently gaining access to programmes in these areas, especially black students, will need to be successfully accommodated (CHE, 2007:11). Intake of these students into these fields poses a formidable challenge for higher education institutions because of their persistently poor school-leaving performance in Mathematics and Science. With regard to enrolment planning, a rationale for government’s decision to limit expansion of the sector appears to be that many current students do not belong in higher education. The low gross participation rate, as outlined above, makes this rationale untenable (CHE, 2007:11).

To complicate matters further, however, is the fact that the performance of students who are admitted to higher education is highly problematic for the goals of graduate output.

A report by the CHE, which includes a presentation of data on a cohort study of students that entered higher education for the first time in the year 2000, indicates that the present performance of the sector in meeting the above goals represents “a disturbing overall picture” (CHE, 2007:12). The report indicates that by the end of 2004 (five years after entering), only 30% of the first-time entering student intake had graduated. An alarming 56% had left the system without graduating, and 14% were still in the system. The number of students who had left without graduating was in excess of 65000, according to the above report. The report also indicates, quite significantly, that the performance of the technikon (now called UoT) sector was notably lower than that of the traditional university intake. By 2004, 66% of the UoT intake had left or transferred before completion of their qualifications, and 23% had graduated. At individual contact UoTs, the highest attrition after five years was 72% (CHE, 2007:14). Of serious concern too is that the percentage of African students still registered from the cohort was significantly higher than that of whites, suggesting that African students were taking far too long to graduate. Should this pattern continue, there would be major repercussions in respect of the provision of high-level skills for the economic growth of the country.

The problem of unemployed graduates in South Africa is also a matter of concern. According to Bhengu, Cele and Menon (2006:851), research conducted in 2006 by the Development Policy Research Unit (DPRU) at the University of Cape Town, South Africa experiences a graduate unemployment rate of 9, 7%. The above authors also assert that since these graduates do not even enter the labour market, it is not clear whether they are actually unemployable, or cannot be absorbed into the mainstream labour market owing to the state of the economy. The existence of unemployed graduates is a dilemma for the country, as it “pulls against the weave of the argument of the need to widen access to higher education as a major determinant of success in the economy” (Bhengu, Cele and Menon, 2006:849). The above problem appears to be linked particularly to African graduates who “have been, and are continuing to,

accumulate human capital in fields of expertise not in demand by employers” (Bhorat and Lundell (2002), according to Favish (2005:276)). A study at the former Cape Technikon revealed that African students are still under-represented in SET, Business and Commerce and some Humanity disciplines (Favish, 2005:275). This finding points to the problem of many African graduates not having the required skills profile to meet the demand of employers.

Problems such as those identified above indicate the numerous challenges facing the higher education system in implementing national policy goals, “amidst the turbulence of rapidly changing local and global conditions” (Subotsky, 2003:354). The problems also indicate, quite clearly, the centrality of enrolment planning in addressing the challenge of meeting graduate output targets. The CHE report cited above lists key issues arising from the performance patterns displayed in the 2000 and 2001 cohort studies, which have implications for individual institutions. These are summarized as follows (CHE, 2007:21):

1. Changes to the poor output performance will not occur spontaneously. Decisive action needs to be taken in key aspects of the educational process.
2. As long as the present performance patterns continue, increased intake of students will not improve graduate output. It may worsen performance, if there are no changes to the educational process.
3. In order to improve graduate outputs, performance patterns will have to improve. It is therefore essential to optimize the performance of the current student intake in the first instance.
4. In respect of the differentials in completion rates of the different race groups, improved performance of the low-performing groups (blacks and coloureds) is vital to the goal of improving graduate outputs.

4.3 Student Retention

A factor that continues to thwart the South African higher education sector's objective of increasing graduate output is the problem of students dropping out of studies before completion. Statistics released by the then Department of Education indicates that of the cohort of undergraduates that entered South African public higher education institutions for the first time in the year 2000, a staggering 50% had dropped out by 2003 (RSA, 2005a: 9), indicating a significant wastage of human and financial resources.

The premature departure of tertiary students is also rife in first-world countries. In the United States of America (USA), for example, the development of retention programmes at universities and colleges is a high priority. The wastage of national resources arising from low retention is of serious concern to government, adding to the "crisis of confidence" in higher education in the USA (Penn, 1999:10). In Germany, a high dropout rate (about 30 of every 100 first year students leave without a qualification) costs the government 8 billion Euros per annum, and has prompted an urgent investment in student retention programmes (Gardner, 2007). The problem in South Africa, however, is definitely greater than in most countries where comparable data are available.

From a research-interest perspective, it is noteworthy that internationally, the student retention problem has been accompanied by a stream of related scholarly studies, where theories of academic persistence are reported widely in research journals. The need for research on individual students and individual institutions in order to obtain a complete understanding of student departure and persistence has been stressed by eminent retention theorists such as Vincent Tinto (Tinto 1987: 6). In illustrating a number of individual studies which show the differing variables that affect student retention at different institutions, Metz (2002:16-18) has given substance to the notion that different perspectives do emerge from these individual cases. He cites, for

example, a study by Liu and Liu (1999), where the data analysis revealed the effects of psychological, sociological and socio-economic factors on individual students and their student departure decisions, and further, that no one variable best predicted student departure decisions. Further examples cited by Metz were studies by:

- House (1999), where it was reported that institution-specific environmental factors affected student outcomes,
- Sturtz (1995) who suggested that time and money-constraints were the reasons why students left 2-year colleges in the USA,
- Hammons (1999) and Pearsons (1999), who determined that age and enrolment status (whether full-time or part-time) affected degree completion (Metz, 2002:17).

Such studies add weight to the argument that institution-specific studies make a greater contribution to understanding the retention problem than do national studies. Adding to the call for individual studies, McLaughlin, Brozovsky and McLaughlin (1998:2) assert,

“...research in retention should be considered a priority. To put it simply, institutional researchers must persuade others that student retention should be treated as a strategic issue.”

The importance of institutional-specific data, as evidenced by the international research cited above, is highly applicable in the South African context. The complexities of South African society have made predictable inroads into higher education (HE), and consequently, research into student attrition and academic persistence will reflect nuances. Studies on student dropout and retention efforts at the Stellenbosch University, for example, may have different foci from those at the Durban University of Technology (DUT), the institution on which this study is based.

From a practitioner viewpoint, the development of retention programmes is further complicated by the heterogeneity and powerful constraints that are present within the South African HE landscape as a whole.

4.3.1 The scope of the retention problem in South African higher education

The consequences of large numbers of students registering for study and then exiting the higher education system before completing a qualification are varied and far-reaching. South Africa's graduation rate of 15% in 2002 is one of the lowest in the world (RSA, 2005a:8). Coupled with other key indicators such as graduate employability, meeting of skills targets and growth rates, it raises serious questions about the efficiency of the higher education sector. The failure to meet these key performance indicators is exacerbated by the problem of student dropouts, and, not surprisingly, has been raised by government policymakers and educational researchers as an area that warrants urgent attention.

According to a policy brief by the Human Sciences Research Council (HSRC), the dropout rate over the period 2000-2003 prompted the Department of Education to issue a public statement pointing out the huge loss to the Treasury (R4.5 billion in grants and subsidies) caused by dropouts (Letseka and Maile, 2008:5). Individual institutions also pay dearly for low retention. Lower student enrolment figures as a result of dropouts will have a detrimental effect on subsidy allocations to universities, since these allocations are linked to a large extent to the number of enrolled students, as well as to output indicators such as success and throughput rates.

A cost analysis study of dropouts at the former Technikon South Africa revealed that the further the student advances in the study cycle, the higher the cost risk for the institution (Gouws and van der Merwe, 2004:257). According to Gouws and van der Merwe (2004:259), successful students and government pay for the higher costs attributed to dropouts. Cost analyses of the effects of dropouts from higher education often overlook the costs to the dropout students themselves, and to their families. According to the HSRC policy brief referred to above, 70% of the families of dropouts were from the "low economic status" category, with many of these mostly African families earning less than R1600 per month who had to supplement students' expenses

even when the latter were recipients of the National Student Financial Aid Scheme (NSFAS). (Letseka and Maile, 2008:6). Many students indicated that one of the reasons for their leaving university was the fact that they had to resort to finding work while studying to augment their resources, “adding to their stress levels and distracting them from their studies” (Letseka and Maile, 2008:6). Koen (2007:9) adds that dropping out also causes damage to the individual’s esteem and self-image, since “a defining feature of university life – a complete undergraduate and postgraduate experience” is lost.

4.3.2 Research into the student dropout problem: South African and International perspectives

A recent and valuable addition to the corpus of literature on the student retention problem in South Africa is Charlton Koen’s *Postgraduate student retention and success: A South African case study* (Koen, 2007). While this study is based on postgraduate student retention, its theoretical underpinnings are applicable to tertiary students in general. Koen (2007:5) argues that most theoretical accounts on the problem of student retention in South Africa merely point to the broader, structural sociological factors that influence student drop-out. He asserts

“This ‘scaffold’ list of general societal factors is of limited value. At best, it provides a one-dimensional view of factors that shape retention, because it directs attention to factors that do not speak to cultural practices within universities and technikons. What we have is a list of single-item macro-societal factors that influence almost all outcomes at universities and technikons...” (Koen, 2007:5-6).

Six dominant perspectives are typically used to explain failure and dropouts within South African Higher Education Institutions (HEIs) (Koen, 2007:14-15). These are :

Rational-economic: according to this view, students perform poorly and leave because of their low socio-economic backgrounds. Compounding the problem is that they do not receive adequate financial support at university;

Resource-scarcity: this view links student outcomes to resource dependency, resource use and resource distribution. Inadequate resources at institutions result in students not receiving adequate academic support, and hence they leave because they do not cope;

Admissions-screening: this view argues that institutions do not adequately discriminate between students that are admitted, they do not link admission to performance in competency-based assessments and as a result of poor selections, students do not cope, and therefore fail;

Schooling-deficit and

Adaptation-deficit models: these two perspectives are closely related and argue that dropouts and failure arises from the inadequate schooling system which does not prepare students with the competencies, skills and knowledge in order to succeed at university;

Vocation-choice: this view contends that poor career guidance at schools, universities and from parents results in students making poor study choices, and hence they drop out.

These six inter-related perspectives clearly have serious consequences for the HE sector. However, in his study, Koen (2007) contends that apart from macro-societal factors, retention has to also be viewed in the institutional context in which academics and students operate. According to him, student-student and academic-student interactions also serve to explain why students persist or leave without completing their studies. He states:

“As a consequence, we know very little about the actual factors (author’s emphasis) that lead students to leave universities and technikons. I contend that the conventional portrayal of drop-out in South Africa is riddled with missing data. Therefore, there is an obvious need to redress the imbalance in research focus” (Koen, 2007:6).

Koen appears to be justified in his claim regarding the limited South African research that provides detailed institutional and individual perspectives on the more complex variables affecting student departure, especially when local research on student retention is compared with the international studies that dominate the literature.

However, there appears to be a growing body of literature on institution-specific studies into interventions by individual HE institutions in South Africa, much of which have enhanced our understanding of student departure. Research articles on retention in South Africa published in journals such as the *South African Journal for Higher Education* and *Perspectives in Education* in recent years show in some depth a number of individual institution's attempts to locate and address the problem through clearly defined strategies. A study by Bitzer (2003), for example, conducted at the University of Stellenbosch, draws on a number of theoretical perspectives on student attrition and integration, including Tinto's longitudinal model of factors influencing student departure, and tests a claim that HE institutions have the propensity to change, or to create an environment that is conducive to student change. A research paper into two studies (at the University of Pretoria and the University of South Africa) by Fraser and Killen (2005), dealt with the question of the perceptions of lecturers and students into the factors that influence student success, another example of the institutional context that could affect attrition. In another research paper by Imenda, Kongola and Grewal (2002), factors affecting student choice such as public image and stability, quality of staff, the language of instruction and a variety of other micro-institutional factors dealt with the problem of declining enrolments at the University of Transkei. The Gouws and van der Merwe (2004) study referred to earlier is useful in that it proposes the use of a costing tool that could assist with institutions developing retention strategies. There are also a number of studies into the effectiveness of retention strategies at individual institutions such as academic support programmes or extended degree programmes, all of which have added to our understanding of the problem of retention (see for examples, Onsongo, 2006; Wood and Lithauer, 2005; and du Plessis, Muller and Prinsloo, 2005).

Given the fact that research into the problem of student retention at individual institutions is still developing in South Africa, *any* account of the retention problem is useful, and should be added to the repository of knowledge on the subject, even if they

do point to the macro-societal list of factors affecting student attrition. Establishing the specific reasons for low retention at individual institutions is necessary and could serve as a catalyst for further research, including specific and detailed studies within these institutions that could contribute to a fuller understanding of the problem. Nevertheless, international research, mainly emanating from the USA, does provide more nuanced perspectives on the problems of student retention. Taking centre stage in the theoretical frameworks for understanding student departure is Vincent Tinto's Student Integration Model (SIM) (Tinto, 1975), which has undergone much scrutiny and consequent adaptation over the years, and is even now regarded as the most influential explanation of student attrition from higher education institutions.

4.3.3 Tinto's Student Integration Model (SIM)

Tinto's SIM (1975) seeks to explain dropouts from individual HE institutions and not from the system as a whole. According to Tinto's theory, family background, personal characteristics and schooling interact with one another, shaping one's *goal commitment* and *institutional commitment*. An individual's commitment to obtain a qualification is defined as goal commitment, while institutional commitment refers to the commitment the individual has to a specific institution. Social and academic interactions influence institutional and goal commitment, leading to retention. Tinto argues that a lack of integration by a student into the social and academic systems of the university will eventually lead to low commitment to those systems, causing the student to leave and pursue alternative activities (Tinto, 1975:92).

Tinto's research also makes the important distinction between students who are forced to leave (e.g. academic exclusions from failure or financial exclusions) and those who leave voluntarily, possibly because of insufficient integration into the social life of the institution. The theoretical model of dropouts developed by Tinto argues that the process of dropout should be viewed "as a longitudinal process of interactions between the individual and the academic and social systems" of an institution (Tinto,

1975:94). During this process of interaction, the student's experiences would modify his or her goal and institutional commitments, leading to either persistence or varying forms of dropout. Excluding the external factors responsible for dropouts as identified by Tinto, the interplay between the student's commitment to the goal of study completion and his commitment to the institution would determine whether he drops out or persists with studies. Inferences that could be made from the SIM are:

- either low goal commitment or low institutional commitment can lead to dropouts;
- even with prior commitment to the goal of study completion, the lower the commitment to the institution, the more likely the student is to drop out;
- sufficiently high goal commitment, even with low levels of academic and/or social integration (hence low institutional commitment) might not lead to dropouts, as the individual may decide to persevere until completion of the degree;
- voluntary withdrawals are often the result of academic difficulties, despite high social integration (Tinto, 1975:96).

A gap in Tinto's theory and much of his research, according to a number of retention analysts, is its omission of the role played by external factors, including availability of financial aid, ability to pay and socio-economic status on withdrawal from institutions. However, as Tinto explains, his SIM (Tinto, 1975) was developed to explain certain and not all facets of dropout behaviour. It was mainly concerned with explaining the differences between dropout as academic failure, and voluntary withdrawal *within* academic institutions (Tinto, 1982: 688). Thus, according to Tinto, the SIM did not address factors that were external to the institution, such as financial issues, since "it was not designed to account for all variations in student leaving behaviour" (Tinto, 1982:689). He further explains that the SIM had several limitations, which were:

- The role of finances in student persistence

- The model did not distinguish between those behaviours that lead to transfers to other institutions and those leading to permanent withdrawal
- The SIM did not highlight the differences in educational experiences of students of different gender, race and social status backgrounds

In explaining the role of finances on student withdrawal, Tinto (1982:689) acknowledges that while the effect of finances can be critical to one's higher education career, its impact is largely at the point of entry into higher education where finances shape one's study choice and institution choice. He adds that beyond entry, finances affect dropout behaviour as a result of "short-term fluctuations in financial need" (Tinto, 1982:689). In this regard, Cabrera, Nora and Castaneda (1992b: 571) assert that studies by Tinto and other prominent researchers such as J.P. Bean, failed to examine the integrated role that financial factors play in academic persistence. In their study of the role of finances in student persistence, Cabrera, Nora and Castaneda (1992b: 589) determined that financial aid, in serving to equalise opportunities between affluent and needy students, and therefore facilitating the integration of students into the academic and social components of the institution (both of which are critical to the decision of persistence or departure), impacts significantly on the persistence process.

In more recent contributions to the literature on student retention, Tinto acknowledges that one of the areas of research that needs to be addressed is the persistence of low-income students (Tinto, 2006: 12). Citing the fact that only a small proportion of low-income students complete a Bachelor's degree, Tinto (2006:12-13) makes the important connection between low-income students and academic under-preparedness; hence the research on developmental (remedial) education must be linked to research on the retention of low-income students. According to Koen (2007:25), Tinto's contribution to student retention studies is that he has explained retention as an outcome of student success. In addition, Tinto addresses important areas neglected in

South African research into retention, among them the impact of factors such as organisational structures and behaviour, student interaction, social structure and social forces affecting whether students persist or leave (Koen, 2007:25).

4.4 Summary

The challenges involved in the policy on student enrolment planning have been outlined in this chapter, through the literature review. Many of these require urgent attention by the state as well as by individual higher education institutions. The chapter commenced with a discussion of the significance of graduate output to the South African higher education system. From an enrolment planning perspective, it can be argued that graduate output is the major determinant of success of higher education systems throughout the world. Apart from addressing labour market needs, the output of graduates in South Africa contributes to the development of individuals who are expected to play senior and leadership roles in society at large.

The objective of increasing the graduate output is being thwarted by the problem of students prematurely dropping out, prior to attaining a formal qualification. The problem is widespread at South African higher education institutions, and the need for retention programmes and strategies is critical. The literature review on student retention included the widely cited Student Integration Model (SIM) developed by Vincent Tinto (1975) to explain student attrition at higher education institutions. The model is useful in that it highlights the processes and activities within institutions that contribute to retention or premature departure. It would be worthwhile for South African institutions to critically examine the applicability of the model.

CHAPTER FIVE

LITERATURE REVIEW: POLICY IMPLEMENTATION IN HIGHER EDUCATION

5.1 Introduction

The implementation of policy on student enrolment planning in South Africa is a complex matter, and related to a wide range of issues including:

- The drafting of various pieces of legislation by national government that are aimed at steering higher education institutions towards efficiency targets.
- The role of the state in steering the implementation process.
- The role of networks (the higher education sector, government, business, the public and individual institutions) in arriving at enrolment planning targets.
- Resource-dependency arising from the linking of subsidies to enrolment planning targets.
- The interventions adopted at institutional level to achieve success.

The literature review in this chapter deals with theoretical perspectives that serve to assist in the understanding of these policy issues, and in so doing, provides a deeper, contextualised understanding of this research study. The first part of the chapter provides a theoretical overview of how change is brought about at the systemic or “macro” level, through a discussion of theories of policy implementation. The chapter presents an argument as to why the nature and structure of higher education institutions make the traditional perspectives of policy implementation viz. the top-down and bottom-up perspectives, inadequate. The network of coordination model of policy implementation is presented as a plausible model for policy implementation in higher education. Other explanations for change in higher education, viz. resource dependency and the neo-institutional theories are also presented in the chapter.

The second part of the chapter deals with the following research question pertaining to unit of analysis 2:

How is enrolment planning being effected at the DUT? Specifically, what are the processes, mechanisms and structures used to coordinate the planning and implementation of the policy, and how effective are they?

The literature review addresses the above question through a discussion of the theoretical perspective of *enrolment management* and the allied strategy of institutional research. This serves to provide an understanding of how the specific policy of enrolment planning in South Africa can be implemented at the “micro” level of individual higher education institutions.

5.2 The role of policy in post-apartheid South Africa

Cloete and Maasen (2002:449) state that after the transition to democracy in 1994 in South Africa, the first higher education policy announcements that were made were highly significant. Such policy announcements, which were purely symbolic in nature, served the purpose of declaring the government’s intention of breaking with the past, rather than making an immediate impact through the introduction of policy (Cloete and Maasen, 2002:449). While these policy announcements, as articulated in the Reconstruction and Development Programme (1994) and the report of the National Commission on Higher Education (1996) were largely symbolic, they were useful, and did not lack impact. As Scott (1995:129) asserts, according to Cloete and Maasen (2002:449), “symbolism, the mechanism by which meanings are shaped, exerts great social power”.

However, since the release of the National Plan for Higher Education in 2001, which represented the commencement of the serious task of actual implementation of policies in order to bring about transformation of the higher education system, major difficulties were experienced. The difficulties, while predominant within higher education institutions themselves, are also related to the perceived top-down manner

in which policies and directives were administered by government. As a report by the Centre for Higher Education Transformation (CHET) (2003:3) notes, these difficulties first manifested themselves by widespread accusations of “implementation failure and paralysis”. The report adds that further to these initial accusations,

“there have been further accusations – that the implementation process has not been consultative enough, that it is heavy-handed and authoritarian, and that the solutions are uniformly imposed with little sensitivity to local realities. From complaints about relative stasis, the tune has now changed to complaints of overload and inundation, with too many things happening at the same time”.

The preceding chapter on the significance of graduate outputs has indicated that difficulties around the performance of the higher education sector still abound. The high dropout rate and less than desirable graduate output are clear indicators that the implementation of policy on student enrolment planning is fraught with difficulties. These difficulties also indicate the limitations of the traditional model of the policy process being viewed as a rational, linear process consisting of the following causally linked phases: policy formation, policy implementation, policy evaluation, feedback and policy adaptation (Cloete and Maasen, 2002:452). The policy process is far more complicated and “irrational” than is suggested by this traditional view, and consequently, studies of the public policy process have moved to studying the interactive nature of the policy process as a whole (Cloete and Maasen, 2002:452). The following sections deal with emerging theories of policy implementation in the public sector, with special reference to policy implementation in higher education.

5.3 Understanding higher education reform through policy: the macro-perspective

There are a number of scholarly reviews of literature on policy implementation in the public sector. Such studies reveal a number of divergent viewpoints in interpreting the policy process. These viewpoints have, in turn, given rise to a number of different theories and models in understanding the policy implementation process. In a study by

O'Toole (1986), for example, which reviewed more than one hundred implementation studies, it was found that there were over three hundred variables which were referred to in relation to policy implementation. The study of policy implementation is highly complex, and also, as O'Toole (1986:189) suggests, without much "cumulation or convergence". Matland (1995:146), in referring to the above study by O'Toole, is of the view that a literature with over three hundred variables does not need any further variables, it needs "structure".

A structure that has been regarded in the last few decades as an effective way to study policy implementation encapsulates the two dominant schools of thought in this field of research: the top-down and the bottom-up perspectives of policy implementation (Matland, 1995:146). More recent research has stressed a synthesis of these theories as well as the role of coalitions and networking in public policy implementation. An overview of these models of policy implementation will be provided in the following sub-sections.

5.3.1 The top-down perspective

Top-down models of policy implementation are concerned with the degree to which the actions of implementing agencies, officials and target groups coincide with the policy goals as embodied by an authoritative decision, such as executive orders, policy decisions as incorporated in legislation or court decisions (Matland, 1995:146). The starting point of the top-down implementation perspective is the authoritative decision, where centrally-located actors (for example, a Cabinet Minister) are seen as the most relevant to producing the results of such a decision.

In the above perspective and with reference to this research study, the Ministerial Statements on Enrolment Planning (RSA, 2005b and RSA, 2007) issued by the Minister of Higher Education and Training would be viewed as the authoritative decision referred to by Matland above. The principal actor in producing the desired effects would be the Minister of Higher Education and Training. Sabatier (1986:22-

25), in a critical self-appraisal of the top-down framework advocated by himself and Mazamian (1983), lists the following six conditions that are seen to be necessary for policy implementation in the top-down framework:

- Clarity and consistency of objectives;
- An adequate causal theory underlying policy goals (the adequacy of the policy levers that will bring about change);
- The implementation process legally structured to enhance compliance by key actors (eg. officials);
- Committed and skilful implementing officials;
- Support of interest groups and sovereigns; and
- Changes in socio-economic conditions which do not substantially undermine political support or causal theory.

Using the top-down perspective, it is evident that the first three conditions can be dealt with by the initial policy legislation, whereas the latter three are the product of political and economic pressures that are exerted during the implementation process (Sabatier, 1986:27). According to Sabatier (1986:27) there are significant strengths in the Sabatier/Mazamian framework of 1983, much of which has been proven by reference to specific cases involving policy implementation.

Matland (1995:146) states that the most fully developed top-down model was developed by Mazamian and Sabatier (1989), where three general sets of factors were presented to determine the probability of successful implementation viz. the tractability of the problem, the ability of statute to structure implementation, and non-statutory variables affecting implementation. The top-down perspective has been met with serious criticisms, however.

The report by CHET (2003:4) states that the top-down perspective is unrealistic in its linear approach, since implementation is not merely a technique that follows from a political process – the political process is ongoing, and implementation involves

negotiation at all stages. Further, with specific reference to the higher education sector, the use of implementation levers in order to “control and manipulate actors in the sector effectively discounted and marginalised their values and views” (CHET, 2003:5). This latter view is in accordance with the view of Matland (1995:148), who states that the exclusive emphasis on the statute framers (eg. government ministers) as key actors in the implementation process is problematic. The fact that the actors “on the ground” have expertise and knowledge of the true problems makes these actors more suited to propose purposeful policy (Matland, 1995:148). However, the top-down proponents view these local actors as impediments to successful implementation. They are regarded as “agents whose shirking behaviour needs to be controlled” (Matland, 1995:148). This perception of individuals being resistant to change is possibly another pointer to the weaknesses of the top-down model. As McLaughlin (1987:174) indicates, “organisations don’t innovate or implement change, individuals do”. He adds that individuals carrying out a policy decision often act from professional motivation. Citing the example of teachers who are often labelled as “resistant to change”, McLaughlin (1987:174) asserts that when teachers ignored or subverted curricular innovations, such actions could represent their trying to do their best, with the interests of their learners in mind. In such instances, the failure to implement may signal deficiencies in the proposed new practices.

5.3.2 The bottom-up perspective

Sabatier (1986:32) advises that the bottom-up approach arose from a number of criticisms of the top-down approach. Firstly, the view that the framers of policy are the most important actors ignores the strategic initiatives coming from the private sector, from “street level bureaucrats”, local implementation officials and from other political subsystems. A second criticism raised by the bottom-up proponents is that the top-down approach is difficult to use where there is no dominant policy or statute, but where a number of government directives and actors prescribe policy. A further criticism of the top-down approach is that it underestimates the ability and the

strategies of local actors to get around central policy and divert the policy to suit their own purposes.

The advocates of bottom-up models of policy implementation are of the view that a more realistic understanding of implementation is obtained by looking at a policy from the point of view of the target population and the officials responsible for service delivery. Policy implementation occurs on two levels: the macro-implementation level, where central actors devise a government programme (policy); and the micro-implementation level, where local organisations react to the macro level plan by developing their own programme of implementation (Matland, 1995:148). In this perspective, most of the implementation problems that occur are as a result of the interaction of policy with the micro-institutional setting (Berman, 1978), according to Matland (1995: 148).

Some of the characteristics and features of the bottom-up model of policy implementation are, according to Matland (1995:148-149):

- Central planners only indirectly influence micro-level factors. As a result of this, there is wide variation in how the same national policy is implemented at the local level;
- Contextual factors at the level of implementation can completely dominate the rules which were created at the macro level, and policy designers are unable to control the process;
- If local level implementers are not given the freedom to adapt the policy to local conditions, the policy will fail.

Sabatier (1986:32) states that a major difference between the top-down and the bottom-up perspectives is that while the top-down approach starts from a policy decision and then focuses on the extent to which the objectives are attained over time and why, the bottom-up approach starts by identifying a “network of actors” involved in the delivery of policy, and asks them about their goals, strategies and activities. A

mechanism is thus created for the development and implementation of policy from the local level to the “top” level of policy makers. The identification of networks is a notable strength of the bottom-up approach, according to Sabatier (1986:33).

Just as there are limitations with the top-down approach to policy implementation, there are several limitations of the bottom-up approach. The two major limitations are summarised from Sabatier’s (1986:34-36) detailed exposition of these limitations:

- The possibility is that the ability of the local actors (the periphery) to frustrate the central actors (the centre) is overemphasised, just as much as there is the danger that the top-downers overemphasise the centre vis-a-vis the periphery. Also, the model’s focus on the local actors’ goals and strategies may lead to an underestimation of the ability of the central authority to influence the goals and strategies through affecting the institutional structure in which the local actors operate.
- Because there is a heavy reliance on the attitudes, perceptions and activities of the local participants, the bottom-up approach is their “prisoner”. Related to this is the fact that an explicit theory of the social, economic and legal factors which structure the perceptions, resources and participation of these local actors does not exist.

With specific reference to higher education, it would appear that in more recent times, there has been a shift from both top-down and bottom-up approaches; however, policy implementation in higher education continues to draw on some aspects of both (CHET, 2003:5). The following section provides some theoretical perspectives on the issue of policy implementation by higher education institutions.

5.4 Policies and higher education

An important fact is brought to our attention by Ferlie, Musselin and Andresani (2008:326), viz. that higher education has rarely been studied as a public policy or management topic and so has not been one of the traditional areas covered by political science or public management. Yet, the question of how higher education organisations change in response to or in interaction with government policies and programmes is important and relevant for understanding how and why policies fail or are implemented successfully (Gornitzka, 1999:11).

From a review of the literature on how change is brought about within public organisations, it would appear that the dominant theories of policy implementation viz. the top-down and the bottom-up theories, are insufficient explanations for change in higher education, given the uniqueness of this sector. With the emergence of globalisation and the New Public Management, the bottom-up approach in higher education would no longer be acceptable to societies, as explained in Chapter 2. Despite this, higher education continues to be regarded as unique despite ongoing attempts to regulate the sector (Ferlie, Musselin and Andresani, 2008:326). In many countries, the nature and structure of higher education institutions also make the top-down approach inadequate as an explanation of change. Clarification on this assertion is provided in the next section.

5.4.1 The nature and structure of higher education institutions as factors in organisational change

Gornitzka (1999:11) asserts that there are certain fundamental characteristics of higher education institutions that affect their ability and capacity for change. She adds that while some may view these institutions as “being in a pathological predicament suffering from ‘institutional sclerosis’, others may view these features as being indicative of strong and healthy organisations which have the institutional confidence that “enables them to resist shifting whims of outside constituents” (Gornitzka,

1999:11). She adds that these characteristics of higher education institutions refer to, in the main, the structural features that affect the capacity for collective action, as well as the cultural identities and features of these institutions. In reference to the structural features, reference has already been made in this study to the fact that higher education institutions jealously pride themselves on their professional expertise, which on its own ought to be regarded as a source of authority. This means that decisions should preferably be made by the scholarly community within the university, in keeping with the ideals of professional autonomy and academic freedom.

A consequence of this is, as the report by CHET (2003:5) advises, is that there is a strong diffusion of authority in higher education institutions where there is the presence of a number of autonomous actors. Thus, a related characteristic of higher education institutions is a high degree of structural differentiation, where each academic department is a “world in itself”, with little functional dependence between different organisational sub-units. This implies that higher education institutions are “bottom-heavy“, leaving a weak role for institutional leadership (Gornitzka, 1999:12). The distribution of decision-making responsibilities and the extent of institutional fragmentation that exists are important factors that play a role in determining the extent to which coordinated change in higher education institutions, as well as in the sector as a whole, is possible or likely (Gornitzka, 1999:12). It should be acknowledged, however, that these characteristics vary from institution to institution (Gornitzka, 1999:12).

Because of these unique characteristics of higher education institutions, Gornitzka (1999:6) advises that two of the main approaches in the study of change within higher educational institutions, which are *resource dependency* and *the neo-institutional perspective*, are primarily derived from the fact that organisational choice and action are influenced by various external pressures and demands. These perspectives, which are discussed in the following sections, should therefore be seen in the context of the

structural features of higher education institutions, which are important factors that determine the extent to which change occurs.

5.4.2 Resource dependency theory

According to Gornitzka (1999:7), the resource dependency theory is similar to earlier open systems theories in that it shares the assumption that organisations are flexible, and that they respond to the environment. In this view, organisations are principally perceived as reactive, which means that if a change in the environment represents a threat to critical resource relationships; an organisation will adapt its relationship in order to arrive at an equilibrium that guarantees a continuous flow of critical resources. Traditional open systems theory holds that by altering the resource flows and how they are structured, organisational change occurs. In this view, a transformation in the environment induces organisational change (Gornitzka, 1999: 7).

The resource dependency theory differs from traditional open systems theories, in that organisations such as higher education institutions are far more complex, and therefore do not respond to demands for change in a passive, compliant manner. In the resource dependence perspective, organisations have to relate to other social actors in the environment, despite their desire to be self-directed and autonomous. The perspective implies that an institution's responses to external demands can to some extent be predicted from the extent of resource dependencies confronting it. The perspective argues that higher education institutions rely heavily on inter-organisational and intra-organisational interaction. They therefore "act strategically and make active choices to manage their dependency on those parts of the environment that control vital resources" (Gornitzka, 1999:7). Thus, while higher education institutions have a major capacity for change, their response to external demands for change is not automatic and passive, but interactional and active. In this regard, Oliver (1991: 164) advises that different institutional spheres exert conflicting definitions and demands on organisations. These demands are sometimes so incompatible that unilateral

conformity to the environment is not possible because “the satisfaction of one constituent often requires the organisation to ignore or defy the demands of another” (Oliver, 1991:162). Di Maggio and Powell (1983:154) assert, according to Oliver (1991: 164) that conformity with the external environment is a function of external dependence. According to this view, organisations are more likely to resist the demands of organisations on which they are not dependent.

Cloete and Maasen (2002:465) further clarify the resource dependency theory in higher education by their statement that organisational responses to change are partially based on influence and countervailing power: the greater the external power of stakeholders or government, the greater their effect on institutions. Greater organisational power, on the other hand, ensures greater institutional choice. Thus, the way organisations respond is to a large extent determined by whether the organisation has other options or relationships.

5.4.3 Neo-institutional theory

The neo-institutional theory is similar to the resource dependence theory in that it assumes that organisations adapt to external pressures of the environment. It differs, however, in that there is also a focus is on how organisations adapt to the norms and beliefs of the environment, and not to resource dependency alone. Thus, change in organisations occurs within the context of norms and beliefs which are taken for granted.

Cloete and Maasen (2002:466) advise that organisations make rational choices which may be shaped by the environment or the need for resources, but within the all-important expectation of organisational stability. They also assert that for an organisation to change in response to government policy there needs to be “a normative match between the values underlying the proposed policy and the identity and tradition of the organisation”. A corollary of this is that change will not occur through government policy if the policy is not in accordance with the institution’s

culture. The theory has much applicability in the higher education environment, where the ideals of professional autonomy and academic freedom are still significant components of institutional culture.

5.4.4 The network theory in policy implementation

Another way of explaining the policy process, including the matter of policy implementation in public organisations, is the network theory. O' Toole (1997:45) states that public administration increasingly takes place in settings of networked actors. These actors rely on each other and cannot compel compliance on the other actors. Thus, networks should be viewed as structures of interdependence, involving multiple organisations or subunits where one unit is not simply the formal subordinate of the others in a hierarchical arrangement (O' Toole, 1997:45). While networks do exhibit some characteristics of stable structures, they should not be seen as "formal hierarchies" as they "extend beyond formally established linkages and policy-legitimated ties" (O'Toole, 1997:4). The "institutional glue", or that which binds the various actors of the network, include authority bonds, exchange relations and coalitions based on common interest, all forming a single, multi-unit structure (O' Toole ,1997:45).

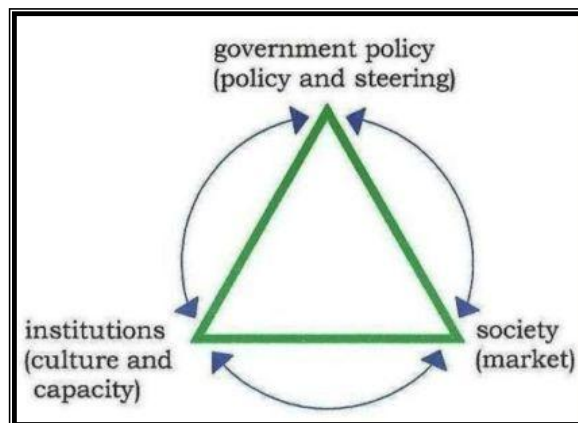
The importance of networks can be seen in the fact that policies dealing with complex issues are "likely to require networks for execution, and complex issues will continue to be on the policy agenda" (O' Toole, 1997:46). An important part of the network theory of policy implementation is that it requires a "liberal government" that encourages complex, networked mechanisms for service delivery. This extends the reach of government policy, while "loosening the immediate managerial grasp" (O' Toole, 1997:45). The applicability of networks in the public higher education setting is explored in the next section.

5.4.4.1 The network of co-ordination

A convincing model used to explain the implementation of transformation initiatives in South African higher education using the principle of networks is the analytic triangle developed by Cloete et al. (2002). The triangle was adapted from Burton Clark's famous triangle of co-ordination (1983). Such a model contributes to a useful understanding of the context of this case study, which describes the implementation of enrolment planning by a South African higher education institution.

According to Cloete et al. (2002:5), Clark's triangle has been very useful for analysing changes in the way a higher education system is co-ordinated or steered. Their adaptation takes into account the present context of societal change, where there is an emergence of network relationships between the state, society and higher education. Further, the aspect of globalisation has been added to the original triangle of co-ordination. The network of co-ordination as developed by Cloete et al. (2002) is depicted in Figure 5 below.

Figure 5: Network of Co-ordination (Cloete et. al., 2002)



The original triangle of Clark reflected the state, market and academic oligarchy. In the three corners of the adapted triangle (Cloete et al., 2002: 6), the model focuses on the following:

- i. *State*: there is a focus on government policy, as well as on government's role of steering.
- ii. *Society*: the model emphasises the economic, political and social demands as well as the needs and expectations of society.
- iii. *Institutions*: the reference to culture and capacity is an acknowledgement by Cloete et al. (2002: 6), that in addition to academic oligarchy, institutional administrative and management structures are powerful drivers of change in higher education.

An important part of the model is the network relationships that exist between the state, society and higher education. These relationships exist because of the growing complexity of higher education (Cloete et al., 2002: 6). According to the network of co-ordination model, change in higher education occurs because of the numerous interactions between various actors that lead to “many interpretations of reality in higher education” (Cloete et al., 2002: 6). Change, according to this model therefore cannot be attributed to the outcome of policy implementation alone, or market interactions, or academic decisions. The numerous interactions that take place in the network results in competing views and perspectives and attempts to find the “appropriate decision-making structure at the right moment” (Cloete et al., 2002: 6)

The reinterpretation of Clark's triangle includes the concept of globalisation. According to Cloete et al. (2002: 6), globalisation has become one of the main concepts used for analysing change processes at all levels. The effect of globalisation on higher education systems has been discussed in Chapter 2.

5.5 The use of steering mechanisms by governments

As evident from the analytic triangle above, governments make use of “steering” to direct higher education institutions to implement policy.

From a literature review, it is apparent that in many countries, governments have become less tolerant of the self-regulatory processes that have characterised higher education institutions for centuries, and are now using steering mechanisms to make institutions more accountable, more efficient and more productive in their use of public funds. Steering mechanisms are “policy tools that encourage higher education institutions to take certain steps that are deemed essential to national economic, social or other goals” (Merisotis and Gilleland, 2000:3). The “mechanisms” usually refer to a funding formula or instrument designed to steer institutions towards specific goals (Merisotis and Gilleland, 2000:3).

According to Merisotis and Gilleland (2000:11), post-apartheid South Africa, policy – driven steering was adopted as a deliberate attempt by the government to meet key policy goals in higher education such as the following:

- *Stabilising institutions and higher education systems.*
- *Improving efficiency*
- *Improving equity*
- *Enhancing quality.*

As indicated in Chapter 2, the New Funding Framework (NFF) for South African higher education should be viewed as a steering mechanism, along with planning and quality assurance. Pillay (2003:11) in a reference to the “efficiency incentives” of the NFF, states that efficiency is steered in the following ways:

- The block grant component of the NFF rewards efficiency of outcomes in research since grants to institutions are based on the actual output of research publications, as well as the numbers of masters and doctoral graduates. Further, research grants are benchmarked against academic capacity, and are not based on a pre-determined allocation of funds.
- Inadequate research performance by the system as a whole results in surpluses of funds which were allocated for research. According to Pillay (2003:12),

these surpluses provide a further incentive to stimulate output in that they are distributed on a pro-rata, output basis.

- Enrolments are steered through the differentiated funding of specific output and input targets. The outputs of certain categories of graduates are rewarded more than others. These outputs relate to the nature of the qualifications, for examples, professional bachelor's degrees are rewarded more than other bachelor's degrees, and agriculture and health sciences receive more funding than librarianship and psychology, in accordance with the country's current human resources needs.
- Through institutional funding, the framework promotes economies of scale and thus lowers institutional unit costs.

5.5.1 International examples of the steering of higher education

In order to obtain a more complete understanding of the use of steering mechanisms, practices in other countries are discussed in this section. These international examples serve as an illustration of the types and the effectiveness of the steering mechanisms used.

From the international perspective, research into the types of levers used currently to steer and coordinate higher education shows that the instruments of funding and quality assurance are the preferred levers of change (Orr, 2005). Financial reform with the goal of steering higher education systems has been a worldwide trend in the 1990s, and there has been a "remarkable consistency" about the similar patterns of such reforms in countries with dissimilar political – economic systems and higher educational traditions, where "performance budgeting" has been a popular budget reform (Johnstone, 1998:22). However, Orr (2005) advises that relying purely on performance has its disadvantages as this mechanism alone can lead to system instability or a distortion of institutional activities, which ought to be weighed up against the advantages of their mandated activities. Further, it is difficult to design

funding methods that accurately reflect the wide range of activities characteristic of a university (Orr, 2005:34). In this regard, Johnstone (1998:22) states that the proponents of performance budgeting are discovering that universities are finding it difficult to balance multiple, difficult-to-measure and sometimes incompatible goals. Thus, increased enrolments, which may be a goal of performance budgeting leads universities to accept promising, but less well-qualified students, but this is incompatible with maximisation of completion rates or with the performance of postgraduate students.

Because of issues such as the above, an important policy decision facing government is how much of the funding should be performance-based formula funding and how much should be allocated according to universities on the basis of contracts, negotiations or discretionary funds, each related in varying degrees to actual university performance (Ewell, 1999), according to Orr (2005:34). In order to assist governments with this complication, external quality assurance mechanisms are being used as a complementary mechanism to steer universities. A study of selected countries viz. England, Ireland, Czech Republic, Hungary and Germany indicates that both funding and quality assurance were being used as steering mechanisms (Leszczensky et al. (2004), according to Orr (2005:33). These quality assurance mechanisms add to greater transparency of universities and their actions. Orr (2005:34) asserts that intensive external monitoring may lead to better information about the performance of universities.

From a literature review of the steering of higher education, the following selected examples from Austria, USA, Germany and Australia are cited in order to establish areas of commonalities and differences.

i) Austria

CHEPS (2005:6) reports the following facts relating to growth of the higher education sector in Austria:

- In 2003, student numbers increased from 217 000 to 227 000 (+4.5%)
- The largest relative increase was in the *Fachhochschulen* sector
- First year enrolments in art and music universities increased by +11.1%

This growth is evidently being supported by the government of Austria, which has designed policy to cope with increasing growth of student numbers within the sector.

Strehl, Reisinger and Kalatschan (2006:62) report that a new funding system forms part of the implementation of Austrian university reform which was spearheaded by the Austrian University Act of 2002. Part of the reform involves steering of the higher education system through new management concepts, global budgets and performance agreements. Part of the reforms also entails reporting by higher education institutions as based on the principles of private sector business law (Strehl, Reisinger and Kalatschan, 2006:63). There have already been visible positive effects of the new funding system, and some of these, according to Strehl, Reisinger and Kalatschan (2006: 65) are:

- Development of strategic profiles and core areas in teaching and research;
- Increasing performance orientation and competition between universities;
- Increased effectiveness through performance orientation;
- Improved output, productivity, research quality and teaching quality.

These reforms were not accepted without criticism, however. Strehl, Reisinger and Kalatschan (2006: 63) report that a common criticism was that there were too many instruments of accountability and reporting, which resulted in increased workloads for universities. Also, there has been a “loss of variety” in research and teaching, as a result of the “mainstream orientation” of universities and their core tasks (Strehl, Reisinger and Kalatschan, 2006:65). In respect of quality assurance in Austrian higher education, the organisation of quality assurance systems is still a relatively new development, and is the subject of ongoing discussion (CHEPS, 2005:7). In 2004, the Austrian Agency for Quality Assurance (AQA) was set up, and is an initiative of the

Ministry and other partners (CHEPS, 2005:7). The agency is responsible for supporting higher education institutions in the development of quality assurance procedures at the level of the programme, the institution and other specific areas e.g. labour market analyses (CHEPS, 2005:7).

ii) United States of America

In the United States of America (USA), the 1990s became known as the “decade of accountability” in higher education (Burke, J et al; 2005:ix), and reform measures linking funding to performance (through performance reporting, performance budgeting and performance funding) commenced in earnest. Alexander (2000:421), with reference to the USA, reported that policies related to time-to-degree and staff-per-degree were being developed in states such as Florida, North Carolina and Indiana to decrease the time taken by students to complete their degrees. Such policies had the effect of forcing institutions to “increase the number of students participating in higher education, while creating a corresponding pressure to reduce the time it takes students to complete degrees” (Alexander, 2000:421). Layzell (1999:242) reports that the number of states that were using performance-based funding grew significantly between 1994 and 1997- from nine to twenty-two. He adds that of the twenty-two states using performance indicators for allocating resources in 1997, seven of these states reported that there was a direct linkage between the use of performance measures in funding allocation and fifteen indicated that there was an indirect linkage.

The direct link between funding and attainment of an objective means that there would be a direct impact on the attainment or non-attainment of an objective. Thus, if an institution’s funding were partially based on the attainment of a 60% graduation rate and the institution attained a 45% graduation rate, there would be a negative impact on the funding allocated to the institution. In states where there was an indirect linkage between performance measures and funding, Layzell (1999:243) advises that there is a more “subjective atmosphere of interpretation” in applying performance indicators in

the resource allocation process. Thus, in the example of the graduation rate used above, the institution would not necessarily be negatively affected by a reduction in funding or other negative consequences, since other factors are considered as well.

Steering of higher education in the U.S.A. also takes place through quality assurance. Rhoades and Sporn (2002: 361) state that in the 1980s, issues of quality in higher education began to be introduced in different ways in the U.S.A. At the state level, state boards and legislatures began to link the issues of assessment and accountability. At the institutional level, quality review processes were undertaken in the context of strategic management efforts to refocus institutions. In the 1990s, state bodies have discussed student learning and programme quality measures in the context of resource allocation cycles (Rhoades and Sporn, 2002:361). At present, most universities have undertaken programme evaluation processes, using the method of internal and external peer reviews as quality assurance initiatives. The results of these reviews are a significant factor in resource allocation to institutions. It also forms a part of the larger process of the prioritising of programmes that are offered at universities (Rhoades and Sporn, 2002:362). In states such as Tennessee, part of the allocation from public funding is based on the planning for instructional program improvement, the score on performance indicators for teaching, and the score of student satisfaction (Cheung, (2003:4). Such indicators evidently serve as incentives to higher education institutions in the USA to improve their quality.

iii) Germany

Strehl, Reisinger and Kalatschan (2006: 80) advise that the principle of state sovereignty in cultural affairs is embodied in the German Constitution (Basic Law). In keeping with this principle, the federal states or *Länder* possess autonomy in the control of higher education institutions. Thus, the various higher education acts of the *Länder* regulate the financing as well as the instruments of governance and management of individual higher education institutions. As a result of the

incorporation of the ideas of the New Public Management (NPM) in German higher education, there has been an emphasis on autonomy at the decentralised level, and the use of competitive business instruments to ensure that central targets are met. According to Strehl, Reisinger and Kalatschan (2006: 81) the following instruments are used to establish a relationship between funding and the strategic objectives of national higher education policies:

- ***Higher education pacts:*** these refer to contracts that have been concluded between governments and higher education. Under these pacts, higher education institutions are granted planning security for the time of an election period, and in return, universities commit themselves to financial cuts to a greater or lesser extent.
- ***Performance and capacity-related allocation of funds:*** This includes the practice of part of the budget being allocated according to parameters. In addition, target agreements are used as instruments of governance between *Lander* and universities.

The rationale for the use of the above instruments is that since the universities are funded by public resources, the state is responsible for ensuring that the funds are being used in an economical way. However, the autonomy granted to institutions ensures that universities assume responsibility for the use of funds. As a consequence, quality assurance has been built into new funding measures that have been introduced in Germany (Rhoades and Sporn, 2002: 380). The high drop-out rates and extended time-to-graduation in Germany has led to official concerns being raised about the efficiency in higher education, and thus, “measures and models of quality assurance have been part of a policy response to this situation” (Rhoades and Sporn, 2002: 374). As part of these quality assurance controls, Universities are required to provide an annual report to government on the attainment of the stipulated goals and the use of the resources. There has also been a reliance on effective leadership in recent times in order to increase quality, accountability and self-regulation (Rhoades and Sporn, 2002:

374). The reliance on effective leadership has led to a further quality measure: the consulting and training of university officials and leaders (Rhoades and Sporn (2002: 374).

iv) Australia

CHEPS (2005:8) reports that a ten year vision for the reform of Australian higher education was encapsulated in an integrated policy framework introduced by the Higher Education Support Act 2003, and the Higher Education Support (Transitional Provisions and Consequential Amendments) Act 2003. Steering of reforms takes place through the above policy framework, as well as through new arrangements for student financing. The priorities of the reform initiatives are:

- Competitive or performance based funding for research
- Funding to encourage lifelong learning and equity of access to higher education
- Greater support for access for disadvantaged groups
- Funding for extra student places. Universities will have to bid for these places with their state governments and the Commonwealth department (CHEPS, 2005:9).

These priorities, identified as “National Priorities”, call for higher education to respond to emerging national needs, such as shortages in particular areas of the labour market. According to CHEPS (2005:9), public higher education providers in particular will be invited to submit bids to admit “priority field” students. The matter of quality assurance in Australian Higher Education is being stressed through the National Institute for Learning and Teaching. Coupled with this is the Learning and Teaching Performance fund, which commenced in 2006, and was to receive A\$ 83 million in 2007, and a further A\$ 113 million in 2008 (CHEPS, 2005:12). The purpose of the fund is to reward excellence in learning and teaching. CHEPS (2005:12) advises that an advisory group of academic and other experts would determine criteria for the fund.

5.6 Implementation at the micro-level: a case for enrolment management

The preceding sections have dealt with the processes involved at the macro-level in order to bring about change within the higher education sector. In particular, explanations of change were provided through theories of policy implementation involving government and other actors in the higher education environment. With reference to this research study, which is concerned with how enrolment planning is implemented by a South African higher education institution, an understanding of the micro-level processes of policy implementation is of special importance. A framework that has been adopted by many higher education institutions to meet the transformative, efficiency challenges relating to student performance has been *enrolment management* or as referred to in some of the literature, *strategic enrolment management* (SEM).

5.6.1 Enrolment Management

The origin of the term “enrolment management” is attributed to Jack Maguire, a faculty member in Physics at the Boston College in the USA, who is reported to have been seconded to an administrative position at the College in the late 1970s (Hossler, 2000:77). According to Hossler (2000:77), Maguire started to use the term “enrolment management” to describe a “synergistic approach” to influencing student enrolments that he was putting in place at the college in 1976. This development led to a new organisational structure emerging for the first time, and one in which departments that previously reported to various heads e.g. admissions, financial aid, research and the registrar on matters relating to student enrolments, now all reported to a Dean of enrolment management (Kraft, 2007:18). Shortly after this, articles, monographs and books emerged on the topic of enrolment management, making reference to efforts at specific institutions (Hossler, 2000:77).

Penn (1999: 6) states that enrolment management is a coordinated, institution-wide effort, and involves a wide variety of areas within the institution such as admissions,

marketing, retention, academic planning, financial-aid and development. She adds that enrolment management assists institutions attain stated goals and remain financially viable. Keller (1991:3), according to Huddleston (2000:65) states that “the radical underlying commitment of enrolment management is its unswerving focus on the longitudinal care and comprehensive education of students”. This apt statement captures the very essence of the concept of enrolment management, which goes beyond the recruiting and admitting of students, and focuses on the “process” of attending to the welfare of the student during the entire period of the higher education experience. Enrolment management is a comprehensive process, based on a strategic, integrative plan that encompasses the identification, selection, retention and graduation of students that have been carefully targeted by the institution.

Huddleston (2000:65) makes the very valid point that the quality of a student’s higher education experience is very much dependent on the academic environment, the “operational excellence” of the institution’s programmes, the quality of student services and the opportunities for personal development. Within this context, enrolment management would thus be concerned with shaping and influencing specific units or departments within the institution that have a significant impact on a student’s decision to enrol and persist until graduation (Huddleston, 2000:65).

It would appear that the over-arching role played by enrolment management within a higher education institution has the potential to make a significant contribution to the institution’s performance, fiscal health and, perhaps most importantly, to the success and satisfaction of the student. The over-arching role of enrolment management would not view student recruitment, as an example, as an isolated process that ends with the student being registered for a programme. It would however, as Bontrager (2004:9) asserts, view the recruitment process as the beginning of promoting the academic success of the student. The student’s decision to remain with the institution, and persevere with his or her academic goals will depend on the institution’s ability to

nurture and build upon the initial relationship that had commenced with recruitment by providing ongoing meaningful and enriching academic and social experiences for the student. It is submitted that such ability can be enhanced by the institution adopting a co-ordinated framework for enrolment management.

5.6.2 Definitions of enrolment management

One of the earlier definitions of enrolment management was provided by Kemerer, Balridge and Green (1982), according to Kraft (2007:20), which identified enrolment management as both a concept and a procedure. As a concept, enrolment management “implies an assertive approach by an institution to ensure the steady supply of qualified students to maintain institutional vitality” As a procedure, enrolment management is a “set of activities to help institutions interact more successfully with their potential students” (Kemerer, Balridge and Green (1982:21), according to Kraft (2007:20).

The above definition was expanded a few years later to “a holistic approach that consists of a number of independent activities. These activities include the clarification of institutional mission, long-range planning, academic programme development, marketing and recruitment, retention, career planning and placement” (Kemerer, 1985:5), according to Kraft (2007:21).

A definition that appears to be cited widely is the following comprehensive definition provided by Hossler and Bean (1990), according to Hossler (2000:78):

“...an organisational concept and a systematic set of activities designed to enable educational institutions to exert more influence over their student enrolments. Organised by strategic planning and supported by institutional research, enrolment management activities concern student college choice, transition to college, student attrition and retention and student outcomes”.

5.6.3 The key elements of enrolment management

The above definition of enrolment management by Hossler and Bean (1990) is useful in that it serves to identify certain key elements of this concept, which Hossler (2000:78) identifies as:

1. The use of institutional research to position the university in the marketplace, to examine the factors influencing student persistence and to develop appropriate marketing and pricing strategies.
2. Monitoring student interests and programme demand.
3. Matching student demand with curricular offerings that are consistent with institutional mission.
4. Paying attention to academic, social, and institutional factors that affect student retention.

Kreutner and Godfrey (1981), according to Mabry (1987: 4) state that enrolment management is undergirded by four components which link together all functions associated with attracting and retaining students. These four components are:

- Marketing services, which entails a systematic effort to identify, display, and match strengths of the institution and attributes with the needs, interests and abilities of all students.
- Enrolment services, which entails the tracking of potential students until their registration. It includes the admissions function, financial aid services and registration.
- Retention services, which entails the efforts by both academic departments and support staff to prevent students from dropping out.
- Research services, which entails reporting on the various enrolment management activities, and the generation of data to be used in the yearly planning of marketing, enrolment and retention activities.

5.6.4 The political frame of enrolment management

Many institutions in the USA employ enrolment management professionals for the coordination of the enrolment management function. These professionals are individuals in the institution with the responsibility, authority and skills to take a leadership role in this area (Kraft: 2007:9). Implementation of enrolment management is a difficult issue, particularly because of the range of actors involved. Black (2003:1), in referring to the role played by enrolment managers, states that the range of issues involved are those of managing change, getting things done, understanding institutional politics and soliciting campus-wide involvement. He adds that these issues “are often thorny and leave many practitioners perplexed” because of the complications of leadership styles, decision-making criteria, competition for scarce resources, power struggles and the institutional culture (Black, 2003:1). Because of these factors, enrolment managers operate within a “political frame” which entails the art of leveraging circumstance, data and relationships (Black, 2003:3). That there is a “political” orientation of the task of the enrolment manager is emphasized by Black (2003:3) in the following excerpt:

“Our job is to push. More importantly, our job is to push in the right places at the right times, which implies that our efforts must be informed and strategic. Whether we are comfortable with it or not, we must be political creatures to be effective in such a highly political environment”.

5.6.5 The structural frame of enrolment management

The structural frame of enrolment management refers to the organisational structure, processes, and policies, which can be viewed as the “skeleton” of the enrolment management practice at institutions (Bolman and Deal, 1991), according to Black (2004:1). The structural framework determines, or at least influences, the organisation’s method of operation.

In a study of enrolment practices at a number of universities in the USA conducted by Penn (1999), it was shown that institutions in the USA adopt one of four distinct

models for an enrolment management structural framework which were developed by Kemerer, Balridge and Green (1982), according to Penn (1999:17-19). These models are described as follows:

1. The enrolment management committee

This is described as the first response to problems related to enrolments. It would involve a few faculty members and middle management administrators. Penn states that while the committee is a good starting point, it does not have a significant impact because it has no real authority (Penn, 1999:18).

2. An enrolment management coordinator

In this model, an administrator is assigned responsibilities that include the monitoring and coordination of all enrolment management activities, typically in the areas of admissions and financial aid. In this model, it has been shown that the personal influence of the administrator is the only indicator of impact; however the individual usually has little influence on policy and procedures (Penn, 1999:18).

3. An enrolment management matrix

This model links the administrators responsible for the enrolment of students with a senior-level management member, who is ultimately responsible for the process. Penn states that while this model provides the possibility of greater impact on policies and procedures, it is still dependent on the senior administrator's communication skills and influence (Penn, 1999:18).

4. The enrolment management division

This is the most centralised systems approach, where all major offices responsible for areas relating to enrolments report to a management member who has a direct link to the head of the institution. According to Penn (1999:19), this is reputed to be the most responsive system to changes in processes. The "division" could be a forum that meets every term and considers reports from various sectors at the institution, and represents a highly coordinated approach to deal with diverse issues such as academic

interventions, marketing and student recruitment as well as issues raised through institutional research.

At some institutions in the USA, the recruitment and retention of students is treated very seriously by the management. At the University of Memphis, a 35-person enrolment management council meets monthly, headed by the provost and vice-provost (Penn, 1999:41). Every area of the university is represented on this council: academic affairs, deans, department chairs and all administrative units that affect the recruitment of students. In addition, an executive committee is tasked to identify resources for recruitment and retention, while a retention committee deals with goals and issues linked to retention of students (Penn, 1999:41).

5.6.6 The use of institutional research in enrolment management

The definition of enrolment management provided by Hossler and Bean (1990) cited above included the importance of institutional research to support the enrolment management effort. Institutional research is also one of the key elements of enrolment management, as stated earlier. This section serves to provide a brief overview of institutional research in the higher education context, and how it could assist with enrolment management. Terenzini (1993), according to Vermeulen (2002:1), advises that institutional research equates to organisational intelligence, which in turn has the following interdependent components: technical/analytical intelligence, issues intelligence and contextual intelligence.

Technical or analytical intelligence refers to various areas of the institutions operations, for example, mathematical modelling by evaluating different scenarios for predicting dropout and graduation rates and forecasting student enrolments. Issues intelligence would involve matters such as costs and resource allocation and financial viability of academic offerings. Contextual intelligence involves an understanding of the culture of higher education both nationally, and within a specific institution. This

assists institutions to adapt its customs, governance and decision-making processes in response to changes (Vermeulen, 2002:2).

Walleri (2003:50) states that the role of institutional research is to “conduct systematic analysis and review of institutional performance with the aim of identifying weaknesses and possible strategies for addressing them”. He adds that an institutional research office would generally perform functions such as reporting to the state, enrolment analysis and forecasting, and producing a fact book for the institution. Institutional research assists with a coordinated approach to enrolment management, since a data-rich environment, informed by specific studies conducted by an institutional research office, will lead to a deeper understanding of processes within the institution, and enhance enrolment planning.

Institutional research will address such issues as the factors contributing to success in graduation rates within and between faculties as raised in the earlier section on graduation rates, where some faculties have shown an improvement in their graduation rates, whilst others have not. Institutional research can also assess the quality of an institution’s student intake, and track cohorts of students to determine the effectiveness of interventions such as supplemental instruction through the use of academic tutors. It could also provide a deeper insight into the problem of dropouts. Institutional research will provide information such as the quality and personal motivation of students in order to establish their chances of completing their studies successfully.

5.7 Summary

The literature review in the chapter provided a theoretical understanding of the change process in public organisations, using a number of theoretical models of policy implementation. The nuanced character of higher education has made policy implementation complex, particularly at the macro-level, where there are a number of

autonomous actors involved. An understanding of these theories is important as they provide a rich grounding for the understanding of policy implementation at institutional level. It has been demonstrated through a detailed literature review, how the imperatives of governments throughout the world have steered their higher education systems towards the improving of efficiency of their outputs. These imperatives have been shaped in part by local or national challenges such as the meeting of labour market needs. They have also been shaped by the forces of globalisation and international market forces which have made higher education systems more competitive and more results-oriented

The network of coordination model, as developed by Cloete et al. (2002), is indeed a plausible model for explaining policy implementation in higher education systems, as it includes the vital role played by a network of actors including that of government's role in steering HE institutions towards national goals. Also, the role of globalisation, as discussed in Chapter 2, is given much prominence in the above model. At the institutional, micro-level, the concept of enrolment management has been shown to be useful for coordinating all facets of enrolment planning, and can be regarded as an effective approach to deal with implementation issues in respect of the policy goals for student enrolment planning in South Africa.

CHAPTER SIX

RESEARCH DESIGN AND METHODS

6.1. Introduction

A description and explanation of the overall research design of the case and the specific methods employed for each of the units of analysis form the basis of this chapter. The approach to this study was partly influenced by the assertions by Stake (2005: 443) that the case study is:

- i) *not a methodological choice of research, but a choice of what is to be studied;* and
- ii) *defined by interest in individual cases, not by the methods of inquiry used.*

Thus, the choice of what was to be studied was a concentrated inquiry into how enrolment planning unfolds within the “bounded system” (Stake, 2005:444) of the Durban University of Technology. This inquiry was undertaken by placing three complex units of analysis of the case under the analytical lens of the researcher. These units of analysis or “cases within the case” (Stake, 2005: 451) have been defined through the determination of the research questions for the study, as recommended by Yin (2009:30). A rationale for the use of the embedded, single-case design is provided in this chapter.

The interest in an individual institution arose from a literature review and the researcher’s observation that the higher education sector is currently beset by a multitude of problems in trying to improve its performance through student enrolment planning. This single, “typical” case (Yin, 2009: 48) would be of interest to both higher education researchers and leaders, from the perspective of generating theory on policy implementation, and because of the practitioner-oriented insights that are derived from the study.

While this case study is defined by the interest in the individual case of enrolment planning at the DUT and not by the methods of inquiry used, in accordance with Stake's assertions above, the choice of methods for data collection for the individual units of analysis and the methodological considerations for the case as a whole was of critical importance to the researcher, and was considered well in advance of any actual data collection.

The study is predominantly qualitative in approach, and is positioned within the interpretative paradigm. Multiple methods of data collection were used, and this chapter provides details of these methods and the rationale for using them.

This chapter also addresses issues of validity and reliability in each of the methods used, the limitations of the study, as well as ethical considerations of the case study as a whole.

6.2 Research Design

In accordance with the thinking of Yin (2003:39), a primary distinction was made at the outset as to whether the single or multiple-case design was to be used in order to address the research questions. The embedded, single-case design has been chosen for this research, having regard for the nature of the research questions of the study as well as the level of depth required for addressing the research questions. The embedded design for this study emanates from the determination of three units of analysis, which are linked to the research questions of the case.

From a literature review of enrolment management as well as a study of the development of policy in enrolment planning in South Africa, it became apparent to the researcher that the critical areas that would determine success in enrolment planning by higher education institutions are:

- The careful selection of students who are likely to persist until graduation.

- Interventions taken by the institution to improve success of students, and in so doing to retain as many students as possible and minimise the prevalence of dropouts.
- A co-ordinated approach to all aspects of enrolment management.

It became apparent from a literature search, that there are few accounts of how the critical areas identified above are operationalised within higher education institutions in South Africa. The above factor was one of the influences for the choice of an in-depth, single case study. It was also clear from the planning stages of this study that the multiple or comparative case method would not have been feasible, given the level of detail that would need to be afforded to the single institution. Further, access to other institutions in exactly the same manner afforded to the researcher in this case study, with the researcher being a participant observer, would not have been possible.

The use of the single-case study is appropriate under several circumstances, and Yin (2009:47-49) provides several rationales for the single-case study.

One of these is when the case is the “representative” or “typical” case (Yin, 2009: 48). This rationale is highly applicable to this case study of the DUT, which is one of twenty three public higher institutions attempting to deal with the challenges of enrolment planning. According to Yin (2009:47-48), the observations and insights provided by a typical case are assumed to be informative about the experiences of the average institution. From the perspective of a public management study, this typical case is of immense value, especially considering the fact that little is known about the challenges of implementing student enrolment planning within public South African higher education institutions. The fact that this is a typical case entails the study not being premised on any definitive a priori hypothesis. Rather, the analysis of this case reveals a number of findings for which hypotheses can be formulated for further research. These are dealt with in the concluding chapter

The rationale for this single case study can also be appreciated through an understanding of Stake's reference to the "instrumental" case (Stake, 2005:445). According to Stake (2005:445), the instrumental case study is undertaken mainly to provide insight into an issue or to "redraw a generalisation". He adds, however, that in instrumental studies, the case is of secondary interest since it plays a supportive role in facilitating our understanding of "something else". Stake (2005:445) further explains that in instrumental case studies, the case is still studied in much detail, however the details of the case helps us to pursue the external interest.

In this study of three discrete units of analysis, the applicability of the rationale for the instrumental case becomes apparent. The details in the narrowly-delineated unit of analysis relating to student admissions and recruitment, for example, facilitates our understanding of the broader issue of student enrolment planning or more generally, of policy implementation at the DUT. These broader issues can be equated to the "something else" alluded to by Stake. The insight provided by the instrumental case of the DUT, when viewed in the context of potential similar in-depth studies of other HE institutions could prove to be of much value since there are a number of public higher education institutions grappling with similar issues in the implementation of enrolment planning. Another rationale for the use of the single case approach is the longitudinal case, where the same single case is studied at two or more different points in time. From a research perspective, a similar study of this case of enrolment planning at the DUT conducted a few years hence could prove useful in determining if performance has been altered, and why.

With regard to the aims of case study research, Yin (2009: 8) states that case studies may be exploratory, descriptive or explanatory, just as there may be exploratory, descriptive or explanatory experiments. The use of "how" and "why" questions in the units of analysis make this case study predominantly explanatory in nature (Yin, 2009:8-9).

6.3 Research questions

The research questions and the methodology for this study arose from the identification of the areas that are critical to enrolment planning, as listed in the previous section. Taking the above factors into account, the research methods described in this chapter are designed to deal with the research problem: *“How is the policy of enrolment planning being dealt with at the Durban University of Technology?”*

The research problem is addressed through a number of questions, which form the embedded units of analysis of the study. Yin (2009:30) advises that the units of analysis are linked to the accurate determination of the research questions. These questions are outlined below.

Unit of Analysis One

- *To what extent is the DUT poised to meet the input indicators of the enrolment plan?*
- *How effective is the handling of applications made by prospective students to the DUT through the Central Applications Office (CAO)?*
- *How effective are the DUT’s student selection processes?*
- *How effective are the marketing and recruitment strategies used by the DUT to attract the required number of students at first year level that meet and exceed entry requirements.*

Both of the above questions address the issue of implementation of enrolment planning from the perspective of the *input* indicators of student enrolment planning policy.

Unit of Analysis Two

- *How is the DUT positioned to meet the output targets of the enrolment plan viz. the success rates, graduation rates and throughput rates?*

- *How is enrolment planning being effected at the DUT? Specifically, what are the processes, mechanisms and structures used to coordinate the planning and implementation of the policy, and how effective are they?*

Both of the above questions address the issue of implementation of enrolment planning from the perspective of the *output* indicators of student enrolment planning policy.

Unit of Analysis Three

The problem of high dropouts impacts negatively on the performance of higher education institutions generally. At the DUT, the problem of dropouts is particularly serious. As an illustration of this, it is pointed out that more than 47% of students who had registered for the first time in 2005, dropped out before completion. The following research questions are addressed in Unit of Analysis Three:

- *Why do students leave the University prematurely?*
- *What are the present activities of students who have dropped out of studies from the DUT?*
- *Do the dropout students wish to return to the DUT to continue with their studies?*

6.4 Data collection instruments

Qualitative researchers typically rely on the following methods of gathering information: observing directly, participating in the setting, structured and unstructured interviewing, survey research, analysing documents and audio and visual recordings (Marshall and Rossman, 2006:97, Holliday, 2007:63 and Leedy and Ormrod, 2005: 157). The researcher is also one of the primary research instruments in a study of this nature (Leedy and Ormrod, 2005: 147).

This case study makes use of methodological triangulation (Kelly, 2006:287), which refers to the use of multiple methods to study specific areas of the case in order to find

convergent evidence from different sources. While predominantly a qualitative study, the use of methodological triangulation in the study entailed the analysis of quantitative data from surveys. This approach is supported by Holliday's observation (2007:2) that "qualitative research will always involve quantitative elements and vice versa". Yin (2009:63) asserts that embedded case studies rely on more holistic data collection strategies for studying the main case but then use surveys or other more quantitative techniques to collect data about the embedded unit(s) of analysis. This study follows the above approach, with a telephone survey and two self-administered questionnaires forming complementary quantitative data collection strategies within each of the units of analysis.

The following sections of the chapter provide the details of the data collection methods pertaining to the specific units of analyses of the case. All of the data was collected over a period of eighteen months, from January 2008 to the end of June 2009. A summary of the data collection instruments for each unit of analysis is provided in Table 11 below:

TABLE 11: Summary of data collection instruments

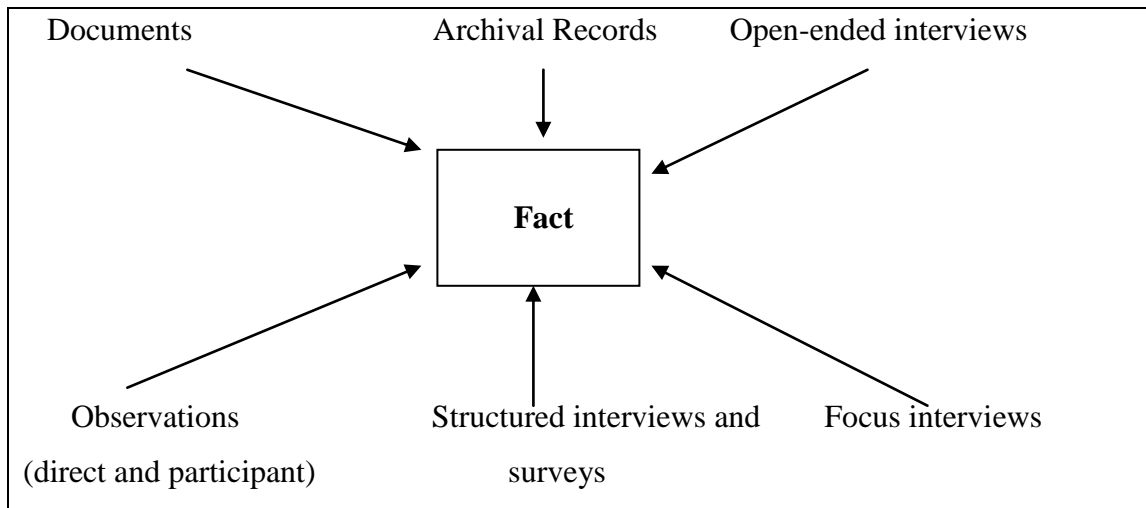
Unit of Analysis	Type of Instrument
<i>1. Marketing, student recruitment, student selection and admission practices</i>	Participant Observation Observation Interviews Self-administered questionnaire Institutional documents Application and enrolment Statistics
<i>2. Implementation strategies for meeting the output indicators of the enrolment plan</i>	Observation Interviews Institutional documents and records Statistical records Self-administered questionnaire
<i>3. The student retention problem</i>	Observation Interviews Focus Group Interviews Institutional documents and records Statistical records Telephone survey

6.4.1 The principle of convergence of evidence

The primary reason for the use of a variety of data collection methods was to abide by the principle of using multiple sources of evidence and in so doing, to deal with the issues of construct validity and reliability of the case study evidence, as recommended

by Yin (2009:114). The over-reliance on a single source of evidence, for example, interviews, would have resulted in the requirements of a case study not having been met (Yin, 2009:118). According to Yin (2009:115), the most important advantage presented by the use of multiple sources of evidence in a case study is that it facilitates the development of “converging lines of enquiry” which is a process of triangulation and corroboration. The collection of information from multiple sources is aimed at corroborating the same fact or phenomenon, and in this way, addresses the problem of construct validity (Yin, 2009:116). Figure 6 below illustrates the use of converging, multiple sources of evidence within a single study, aimed at corroborating a fact.

Figure 6: Convergence of evidence: single study (Source: Yin, 2009:117)



6.4.2 Primary sources of data

6.4.2.1 Observation and Participant observation

The researcher is a member of the staff of the DUT, employed as a Deputy Registrar. Acceptance of the role of the researcher as observer and participant observer was provided by the relevant Faculty Research Committee at the DUT, as part of the Committee’s ethical clearance for this study. This decision was ratified by the DUT’s Higher Degrees Committee.

Cohen, Manion and Morrison (2007:396) argue that a unique strength of observation, which entails immediate awareness or direct cognition, is that it has the potential to yield more valid or authentic data than is the case with inferential methods. Through observation, the researcher is able to see what is taking place directly rather than relying on second-hand accounts. Observation can be related to facts, events or behaviours (Cohen, Manion and Morrison (2007:396).

With regard to this research, the researcher's observation as a member of staff *with a research interest* relating to a number of processes and events forms a significant part of the data collection process. In addition, observation from the researcher's attendance in an official capacity at meetings, informal discussions and a workshop formed an important part of the data collection strategy. The observation and study of facts, including statistics and institutional documents relating to enrolment planning also formed part of the data collection. Gold (1958), according to Cohen, Manion and Morrison (2007:396) provides a valuable classification of researcher roles in observation, where these roles lie on a continuum. The classification ranges from the complete participant, moving to the participant-as-observer, thence to the observer-as-participant, and finally to the complete observer. The researcher's role in this study differs in respect of the three units of analysis.

With regard to the unit of analysis one, the researcher is clearly a participant-as-observer, as he is directly involved in the area of student admissions. The Student Admissions Office is one of the departments that the researcher has line authority over, in his capacity as Deputy Registrar. Of significance is that the work relating to student selections by the DUT's Admissions Office is dependent on decisions taken by academic departments. The researcher is thus never a complete participant in this unit of analysis. With regard to the other two units of analysis, the researcher can be regarded as largely an observer-as participant as he does not have a direct influence in the areas being studied, and does not participate directly in the processes involved.

However, being an employee of the University, as a relatively senior support staff member in the capacity of Deputy Registrar, the researcher has access to information on the processes of interventions, the recruitment process as well as information relating to issues such as the retention of students. The participant observer status of the researcher was extended to attendance at certain key meetings and a workshop where issues relating to student selection and interventions adopted by the University were discussed. He was therefore party to discussions and decisions relating to various facets of the implementation of the enrolment plan.

In the context of this case study, the observer and participant observer status is linked to the interpretive paradigm of research, which aims to explain the subjective reasons and meanings behind the case that is being studied (Terre Blanche and Durrheim, 2006:7). The subjective biases that occur in a study such as this, where the researcher is a primary data-gathering instrument, are acknowledged. However, as Terre Blanche, Kelly and Durrheim, (2006:277) assert, “subjectivity is not an enemy of the truth”, and care is taken in the presentation of this study to ensure that such subjectivity is appropriately used, as generally required of interpretative research.

It is important to note at this juncture, that the issue of the researcher being immersed in the case study is central to a common criticism of the case study, where it is argued that the use of the case study approach contains a bias towards verification, that is, a tendency to confirm a researcher’s preconceived notions. Such a criticism is usually made when the qualitative case study approach is compared with quantitative methods of investigation. According to Flyvbjerg (2006:235), the critique that the case study and other qualitative methods are less rigorous than quantitative methods because of reasons such as the above, is fallacious. He points out that the element of “arbitrary subjectivism” can influence the choice of categories and variables for a quantitative investigation as well, where a structured questionnaire is used across a large sample of cases. The probability is high that the same “subjectivism” survives without being

corrected during the quantitative study, and more importantly, the results are affected simply because the quantitative researcher “does not get as close to those under study as does the case-study researcher”.

Yin (2009:14) states that when biased views of the researcher influence the findings and conclusions of research, it has much to do with the case study researcher being “sloppy” and that rigorous procedures have not been followed. However, this is not a problem with case study research or qualitative research in general; the same lack of rigour could occur when experimental research is being conducted, or when surveys and questionnaires are being drawn up (Yin, 2009:14). It is apparent however, that this problem has been more frequently encountered in case study research (Yin, 2009:14).

6.4.2.2 Transcripts of interviews

Interviews are a common method for gathering data in qualitative studies, and often differ in the manner in which they are used. They can be loosely or semi-structured or structured (Mason, 1996:39), short or in-depth, and can be used for individuals or groups (Kelly: 2006: 304). Interviews have been described as “a conversation with a purpose” (Kahn and Cannell (1957), according to Marshall and Rossman: 2006:101). The purposive sampling technique was used for the interviews in this study, where individuals or groups of people were chosen as they were regarded as “knowledgeable people”, those persons who have in-depth knowledge about the issue being researched because of the professional role they play in the organisation (Cohen, Manion and Morrison, 2007: 115). The primary concern with such sampling was not representativeness or generalisability; it was rather the need for in-depth information from persons who were in a position to give it (Cohen, Manion and Morrison, 2007: 115).

The strengths of using interviews to obtain data, according to Marshall and Rossman (2006:101), are:

- Interviews yield data quickly.
- Combined with observation, interviews allow the researcher deeper meanings of activities.
- Immediate follow-up and clarification is made possible through interviews.

Many of the interviews in this study can be described as “elite” interviews, which refers to interviews with individuals who were chosen because they are influential, prominent and/or well-informed in the organisation (Marshall and Rossman: 2006:105). The elites chosen for interviews in this case were chosen because of the positions they hold, and because of their direct involvement in specific areas of enrolment planning. All of the interviews were semi-structured.

The procedure for recording interviews differed as a result of the wishes of certain respondents. The researcher was obliged to notify all participants of the intention to record the proceedings with a digital voice recorder, and to enquire whether participants felt comfortable with such recording. In many instances, the participants agreed to the use of the digital voice recorder, however, some participants indicated that they felt more comfortable if the researcher took notes instead. This aspect serves to illustrate some of the limitations of using interviews as a data collecting instrument. Marshall and Rossman: 2006:105) point out that interviewees may be unwilling or may be uncomfortable sharing all the issues that an interviewer wishes to explore. Also, interviewees may have good reason not to be truthful in their responses. The extracts of the actual write up of the interviews were given to respondents with the intention of establishing accuracy of reporting. The exceptions to this were the interviews conducted with first-year students and the dropout students (vi) and (vii) below, where such corroboration of the evidence written in the transcripts was not possible. No objections or corrections were received from those to whom the extracts of the write up were given.

The key informants for interviews were:

i) Executive Deans of faculties

Three of the six Executive Deans responded to the request for an interview. The questions that were asked related to:

- The processes relating to the drawing up of the enrolment plan submitted to Executive Management for approval and which was thereafter submitted to the Department of Higher Education and Training.
- The processes involved in dealing with applications and selections of students.
- Interventions taken by faculties in dealing with the indicators set by enrolment planning.
- The extent to which issues such as throughput, success rates and dropouts are prioritised within faculties.
- Their views on the admissions model used by the DUT.
- General issues relating to enrolment management including marketing and other issues that impact on the recruitment of students.

The interviews with Executive Deans were intended to obtain data on all three units of analysis, and are reported on at relevant sections of the research findings.

ii) Executive Director: Corporate Affairs

The questions asked by the researcher in the interview with the Executive Director: Corporate Affairs had the following objectives:

- To determine the overall objectives of marketing at the DUT.
- To establish the form that marketing takes at the institution.
- To establish the extent that marketing is aligned with enrolment planning.
- To determine the specific student recruitment initiatives that are undertaken by the department.

- To establish whether the Division of Corporate Affairs is involved in enrolment management at the University.
- To obtain specific views of the Executive Director relating to: the shortfall in student numbers (as experienced at the commencement of 2008), image and positioning of the DUT.

iii) Executive Assistant to the Vice-Chancellor

The interview with the Executive Assistant to the Vice-Chancellor was undertaken specifically because of this informant's role in the student unrest that had occurred at the University at the commencement of 2008, during the student selection and registration processes. The primary purpose of the interview was to establish the impact of such unrest on meeting enrolment targets.

iv) Manager: Student Recruitment

The interview with the Manager: Student Recruitment sought to establish the following:

- The main strategies used by the Department of Student Recruitment to recruit students.
- The views of the Manager on how well these strategies were working.
- Any difficulties or limitations experienced by the Department in the goal of student recruitment.
- The manner in which the activities of the Department were aligned with the goals of the institution, and with the enrolment plan.
- Whether the Management of the institution provided any guidelines or directives to the Department in respect of student recruitment.

v) Personnel in the Centre for Higher Education and Development

The Centre for Higher Education and Development is responsible for co-ordinating initiatives within department to improve success of students. A major aspect of the department's work is that of "academic development", where a range of initiatives are employed for the development of students from academically disadvantaged backgrounds. The Acting Director of the Centre and the Manager responsible for co-ordinating testing of students for access and placement were interviewed to establish the following:

- The primary strategies employed by the Centre to improve student performance.
- The role played by the Centre in respect of testing for access and placement.
- The views of these personnel regarding how the University could improve performance in respect of enrolment planning targets.
- The views of these personnel as to why the DUT experiences a high dropout rate.

vi) Interviews with first-year students

Interviews with sixteen first-year students were held to establish:

- The manner in which their applications were dealt with by the Central Applications Office.
- The handling of selection decisions by the University.
- Whether they had made prior applications for study, and if not, why not.

vii) Interviews with dropout students

Four in-depth interviews were held with students who were academically excluded to obtain a "closer feel" of the particular circumstances leading to their poor performance. These interviews served to provide insight into the particularly debilitating problem of dropouts at the DUT, as evidenced by statistical evidence obtained from cohort studies.

6.4.2.3 Focus group interviews: dropout students

As a follow up to the interviews with academically excluded students, two separate focus group interviews with four students in each group were held to examine in closer detail the dropout problem at the DUT. Kelly (2006: 304) states that focus groups should typically be groups that share similar experiences, but are not “naturally” an existing social group. It was established at the focus group interviews that the participants had not met each other prior to the interviews.

6.4.2.4 Survey Research

Self-administered questionnaires and a telephone survey were used as complementary data collection strategies for the study. Two of the questionnaires were self-administered, and one was a telephone survey. Sampling strategies differed in the application of each of the questionnaires, and these are explained in the paragraphs that follow. In all of the surveys, hypothesis testing was not the objective. The objective, as with all the other data-collection methods, was to establish whether convergence of evidence existed. For this reason, data analysis was limited to the presentation of basic statistical frequencies of responses, as obtained through the SPSS software using the services of a statistician.

6.4.2.4.1 Survey of first-time entering students

The objectives of the survey of first-time entering students were to obtain an understanding of:

- The effectiveness of the DUT’s marketing and student recruitment strategies.
- The effectiveness of the DUT’s student selection practices through soliciting the experiences of first-year students when they applied to study at the DUT prior to their admission.

The methodological issues relating to the abovementioned survey are detailed hereunder:

i) Questionnaire design

These surveys, using structured questionnaires, were completed by first-year students in the presence of trained research assistants over a two-month period. Most of the questions required a yes/no (dichotomous) response, or were multiple-choice in nature. These surveys were relatively quick to administer, and respondents were willing to co-operate with the survey because of the uncomplicated nature of the questions. Cohen, Manion and Morrison (2007:321) state that the value of dichotomous questions is that they compel respondents to “come off the fence on an issue”, and to provide a clear, unequivocal response. A limitation of these questions, however, is that they do not enable respondents to add remarks, qualifications or explanations, resulting in bias and over-simplification (Cohen, Manion and Morrison, 2007:321). With regard to analysis, the use of dichotomous variables as well as multiple choice responses enables the ensuing nominal data to be easily analysed (Cohen, Manion and Morrison, 2007:324).

ii) Sampling

A total of 1152 students completed the questionnaire.

Non-probability sampling, using the techniques of purposive and snowball sampling, was the chosen strategy used to obtain data. Purposive sampling is justified as the nature of the research questions necessitated the responses of first-time students only. The use of probability sampling, for example stratified random sampling, would not have been appropriate or possible, since the primary purpose of the survey was to obtain data on the experiences of first-year students in general, relating to their experiences of student recruitment and selection and admission practices of the DUT. Since the purpose of the survey dealt with issues prior to their admission to the DUT, the use of non-probability, snowball (convenience) sampling of first-year students was adequate as a sampling strategy. Snowball sampling was also used for practical purposes, since the surveys could only be administered when first year students were

outside of their lecture rooms, and hence the identification of first year students could only be facilitated through this sampling technique.

iii) Data Analysis

The results of the survey were analysed using SPSS frequencies, and descriptive statistics were produced.

6.4.2.4.2 Questionnaire to Heads of Academic Departments

The objectives of the questionnaire which was circulated to heads of academic departments within each of the six faculties were to establish:

- Attitudes of heads of departments about the usefulness and effectiveness of the marketing and student recruitment practices adopted by the DUT.
- Attitudes towards selection practices that are presently being used at the DUT, in particular the practice of pre-selections prior to the year of admission.
- Attitudes towards the overall goals of student success.
- Attitudes towards specific intervention measures, for example, use of student tutors, mentoring programmes and foundation programmes.
- The specific interventions that were adopted within departments, if any, that are geared towards meeting success indicators.

The methodological issues relating to the abovementioned survey are detailed hereunder:

i) Questionnaire design

The questionnaire used a Likert-type rating scale of the category *Strongly agree/agree/undecided/disagree/strongly disagree*, with a numerical rating from 1 to 5, to establish the attitudes of heads of departments to the first four areas listed above. Twenty six questions were used, with provision being made for additional comments.

The fifth area was addressed by a multiple-choice question, from which respondents were asked to select the specific interventions that were being adopted within departments. Eight possible interventions were listed, with provision being made for “other” and “none” responses and for additional comments.

With regard to rating scales, Cohen, Manion and Morrison (2007:327) advise that these are widely used in research, and rightly so, since they enable the researcher to combine measurement with opinion, quantity and quality. However, while rating scales are powerful and useful to research, they do have a number of limitations. According to Cohen, Manion and Morrison (2007:327), some of these limitations are:

- There is no assumption of equal intervals between the categories. Thus, a response of “disagree”, which would receive a rating of 4, neither indicates that it is twice as powerful as “agree” (rating of 2), nor that it is twice as strongly felt. It would be incorrect to infer that the intensity of feeling between “strongly agree” and “disagree” matches the intensity of feeling between “strongly disagree” and “agree”.
- There is a tendency for respondents to “sit on the fence” by opting for the mid-point of the scale.
- It is a human tendency to not wish to be regarded as “extremists”. Hence, respondents avoid the two extreme poles at either end of the continuum of the scale. While acknowledging this as a potential limitation, the researcher submits, however, that “moderate” responses may be authentic.
- There is no way of checking on whether respondents are telling the truth. Some respondents may be deliberately falsifying their responses.

ii) Population and sample

The questionnaires were sent to all forty one Heads of Departments. A total of thirty six completed questionnaires were received.

iii) Data analysis

The results obtained by the questionnaire were analysed using SPSS frequencies by a statistician, and simple descriptive statistics were produced.

6.4.2.4.3 Telephone survey: dropout students

Having regard for the time-frames for the research on this unit of analysis relating to the problem of dropouts at the DUT, as well as data and student record limitations, the objectives of the telephone survey were to establish the following:

1. What are the reasons for students dropping or stopping out of studies at the DUT?
2. What activities are these former students engaged in at present?
3. How many of the dropouts are actually stopouts, intending to return to studies? If so, what would be the choice of institution to continue with studies and when would they return to studies?

The methodological issues relating to the abovementioned telephone survey are detailed hereunder:

i) Questionnaire design

The survey questions were straightforward, as typically required of telephone surveys, and focused on obtaining the following information:

1. Reason for dropping out of studies: This was ascertained by a free, open-ended question, and respondents were asked to provide their answers in detail, so as to facilitate categorisation and resulting coding of their responses, for the purposes of analysis.

2. Present activity: Respondents were requested to provide a single response to the following categories: employed, unemployed, studying elsewhere. For the latter, respondents were asked to indicate where they were studying and why they had left the DUT to study elsewhere.
3. Temporary or permanent discontinuation of studies: Respondents were asked to indicate whether they have stopped studying altogether, intended to continue with studies at a later stage, or whether they were undecided. Reasons for permanent discontinuation of studies were also requested. Those students who indicated that they intended to study further at a later stage were asked to clarify when they intended to study, and at which institution. If the DUT was not chosen, respondents were asked to explain why.

ii) Population and sample

The population of interest was:

- the total number of undergraduate first-time entering students who had registered in 2004 for three year diploma studies, did not graduate in regulation time in 2006, and did not re-register in 2007 (3102 students); and
- the total number of undergraduate first-time entering students who had registered in 2005 for three year diploma studies, did not graduate in regulation time in 2007, and did not re-register in 2008 (2402 students).

Difficulties encountered with the accuracy of student contact details led to the sampling strategy being modified in respect of the sampling technique, as well as the sample size. The initial intention was to utilize stratified sampling, with the respondent's previous faculty being used to draw the sample from. However, the challenges posed in tracing dropout students, and the resultant scarcity of respondents necessitated the use of convenience sampling. The sampling size was thus determined by the availability of respondents within the timeframes and costs of the research

study. This was a clear limitation of the survey, and is discussed further in the next section dealing with the limitations of the telephone survey as a whole.

In order to make contact with these students, printouts of biographical details of the above students, which included telephone contact numbers, were obtained from the DUT's Information and Technology Support Services (ITSS) department. A total of 551 former students were contacted, with no categorisation of respondents by demographics, age, gender or field of study. The survey was conducted with the aid of trained research assistants over a three week period in July 2008.

iii) Limitations of the telephone survey and some of the challenges encountered

From a methodological perspective, the use of the telephone survey was instructive as it highlighted a number of challenges in this data collection method. Firstly, a study such as this is complicated by varying degrees of motivation on the part of these former students to participate in research that may have emotional connotations. In this instance, the objective of obtaining information about dropouts, from the dropouts themselves, was an emotionally sensitive one. A significant number of dropouts were reluctant to be interviewed and simply indicated a reluctance to participate, either directly, or by evading the research assistants. The lack of motivation by many former students to participate in the research has perhaps much to do with the issue being an emotional one. It is possible that in other cases, dropout students have moved on, and have become emotionally disconnected from the University.

A further challenge was that major difficulties were experienced in contacting students categorised as dropouts from the data provided. The main reason for this was that contact information which had been recorded at the time of their registration as students was either incorrect or had changed. The submission of mobile telephone numbers by students for contact purposes at the time of their registration poses particular difficulties as service-providers (and hence mobile telephone numbers) are easily and often changed, leaving outdated information in their student records. Also,

in many instances, respondents were unavailable, thus multiple attempts had to be made to contact a single student in some instances. Finally, in evaluating telephonic surveys as a data-gathering instrument, this study reflected Dillman's (2000) observation, according to McIntyre (2005: 169), that "*...the telephone has evolved from being a controller of human behaviour that demanded a response to becoming controlled, so that individuals decide who can reach them and when.*"

The technologies associated with mobile telephones have contributed to the instrument being more effectively controlled, with respondents deciding whether to receive further calls from the researchers (through caller line identities (CLIs) or whether to respond to messages left on voicemail.

With regard to surveys generally, Groves (1990: 228), confirms that all surveys are subject to a variety of errors; these could emanate from noncoverage, nonresponse, and other measurement errors. Measurement errors are usually attributed to specific actions of interviewers and respondents and the wording of questionnaires. In this telephone survey, errors in the survey results may have occurred through sampling, non-response and measurement errors. The representativeness of the sample may have affected results; however validity claims can still be made on the sample taken, since the population can be regarded as rather more homogeneous than heterogeneous (McIntyre, 2005: 108). The shorter length of time required for responses in telephone surveys, as compared with face-to-face surveys, has been acknowledged to contribute to measurement error with telephone surveys generally (Groves, 1990:228).

iv) Data Analysis

The quantitative data that was gathered was then analysed, using SPSS frequencies and cross tabulations. The principal, open-ended question on the reason for drop-out was classified into categories, and the categories were added to the quantitative data obtained from the other questions. Descriptive statistics were produced, and in addition, the categories were contrasted, using cross tabulation.

6.4.3 Secondary sources of data

The secondary sources of data used in this study can be loosely categorised as “documentary research” (Cohen, Manion and Morrison, 2007:201). The examination of these documents served to enhance the researcher’s understanding of the context of the DUT in relation to enrolment planning and its challenges. These documents, particularly statistical reports, served a crucial purpose in this study, as much reliance was placed on these to portray the status of the DUT in respect of critical input and output indicators. In addition to these, correspondence between government and the institution illustrated the importance of the student enrolment planning initiative, and partly served as a motivation for the study in the first instance.

A note of caution is inserted by Cohen, Manion and Morrison (2007: 203), by their argument that documents were written for a specific purpose, which may not coincide with that of research, and hence, the use of documents could lead to problems of validity, since bias and selectivity can enter the analysis of the case. This concern was addressed by the researcher through following the advice of Yin (2009:72), where preliminary findings were reported to persons who can be regarded as knowledgeable persons or institutional experts. Thus, discussions with individuals such as the Director of the DUT’s Management Information department served to clarify the status and role of numerous documents used in this study, thus increasing reliability and validity in documentary analysis. A description of the documents used in this study follows.

6.4.3.1 Institutional documents and records

Various institutional documents were used for the study: strategic plans, the marketing plan, correspondence relating to enrolment issues, minutes of enrolment planning meetings, plans/analyses in respect of DUT’s enrolment targets provided by the DoE, the enrolment plan itself, and student enrolment statistics from the institution’s information system.

Statistical tables relating to outputs (success rates, throughput rates and graduation rates) in recent years from the DUT's MI department were also examined to establish the DUT's position on its trajectory to meet specific DoE benchmarks by the year 2010. Statistical tables were also obtained from the Department of Higher Education and Training which illustrate the DUT's performance in relation to other Universities of Technology in the year 2008. Further, statistical data was obtained from the Central Applications Office (CAO). Using this data, as well as institutional records of selection decisions made by academic departments for 2008, an analysis of the enquiry and applicant pool was undertaken.

6.4.3.2 Review of Government legislation, reports and official correspondence related to student enrolment planning

The initiatives by government to steer the process of transforming the size and shape of the higher education system in post-apartheid South Africa through various reports and legislation were examined in detail. These included the report of the National Commission on Higher Education (NCHE), the 1997 Education White Paper 3: A framework for the transformation of higher education, the National Plan for Higher Education, the New Funding Framework (NFF), reports and ministerial statements on student enrolment planning and correspondence from the Minister of Education to the DUT relating to negotiated targets for student enrolment planning for the period 2006-2010.

6.5 Establishing validity and reliability

Yin (2009:14) points out that there are a number of research investigators who disdain the case study as a research method or strategy, and that case studies have traditionally been viewed as lacking rigour when compared with other social research methods. These views are prejudices and misunderstandings, according to many researchers, who are adamant that these perceptions are inaccurate (see, for examples, Rowley, 2002; Yin, 2009; Lee, Collier and Cullen, 2007, Tellis, 1997, Patton and Appelbaum,

2003, Bailey, 1992; Jensen and Rodgers, 2001 and Flyvbjerg, 2006). Having regard for these traditional perceptions, the researcher attempted to ensure that the case study was a credible one, and one which emphasised the rigour required of research generally. A study of research methodology pertaining to case studies, including the issue of ensuring validity and reliability of the research, was undertaken at the commencement of the study. Construct validity and reliability of the study was established by adhering to the following principles advocated by Yin (2003:97-105) in regard to data collection:

- *The use of multiple sources of evidence.*

As indicated in the section detailing the data collection instruments, methodological and data triangulation were used within each of the units of analysis. The different sources of evidence served to strengthen the findings and analysis of the case.

- *The creation of a case study database.*

The database refers to the organising and the documenting of all the data collected for the case study. The principle behind this is that raw data can be inspected independently, and that a review of the findings of a case study should not be limited to case study reports. The existence of such a database makes the case study a more reliable one. In this regard, the researcher has maintained such a database, which can be retrieved for independent review. Notes from interviews, the voice files from recorded interviews, the original completed questionnaires, the data analysis of these questionnaires and the reviewed documents have all formed part of a database that has been maintained.

- *Maintenance of a chain of evidence*

According to Yin (2009:122), a chain of evidence increases the reliability of a case study. The principle of the chain of evidence follows the reasoning that by allowing an external observer to follow the derivation of any evidence from initial research questions to the case study conclusions, the reliability of the case is strengthened. This

chain of evidence was maintained in two ways by the researcher. Firstly, through consultations with the promoter of this doctoral study, the data that was collected at various stages was discussed, and draft reports were then written. These draft reports were examined in detail by the promoter. In some instances, critical questions were raised by the promoter, and these were reflected upon by the researcher, and the conclusions revised. Secondly, in the case of data from institutional documents, particularly those relating to the interpretation of statistics on enrolment planning issues, these documents were first discussed in detail with the Director: Management Information at the DUT before any conclusions could be made. The written reports containing conclusions derived from these documents were then given to this individual for critical comment. Thus, the “facts” of the case were interrogated, adding to the overall reliability of the study.

6.6 Limitations of the Study

A common limitation of single case studies is that they provide little basis for scientific generalisation. This case study is no exception. This limitation was acknowledged at the outset of the research, and guided by the thinking of Yin (2009:15) that the case is not a “sample”, and hence, the goal was to expand and generalise theories (analytic generalisation), and “not to enumerate frequencies (statistical generalisation)”. Thus, the findings of this case study may be generalisable to “theoretical propositions” (Yin, 2009:15) but not necessarily to other higher education institutions.

The limitation regarding generalisability ought not to be viewed as an acknowledgement of the weakness of the case study as a research approach, however. Despite the limitation regarding generalisability, in-depth case studies are invaluable to research. As Flyvbjerg (2006:228) asserts, formal generalisation is overvalued as a source of scientific development, whereas ‘the force of example’ is underestimated.”

A further limitation is the use of the researcher as the primary research instrument. Subjectivity and researcher-bias would inadvertently affect the analysis of the case, despite the researcher being aware of such subjectivity throughout the study, and taking measures to circumvent or minimise it. This aspect has been discussed in this chapter in the section dealing with the researcher's role as observer and participant observer. The use of strategies to minimise the problems of researcher bias are detailed in the section dealing with validity and reliability.

Other limitations of the study were the constraints imposed by timeframes and costs. Because of the array of data collection instruments, as detailed above, as well as the number of units of analysis involved in the study, decisions regarding sample sizes for the respondents to be interviewed were constrained largely by time. Over and above the abovementioned limitations are specific limitations that are inherent in each of the methods used for data collection. These were discussed in the description of the methods used.

6.7 Ethical issues: access, acceptance and informed consent

Although the researcher is employed by the University, formal procedures were followed in obtaining permission for conducting the research. Cohen, Manion and Morrison (2007:55) state that research investigators cannot expect access to the site of the research as a matter of right. Therefore, researchers will have to obtain consent by demonstrating that "they are worthy, as researchers and human beings, of being accorded the facilities needed to carry out their investigations" (Cohen, Manion and Morrison, 2007:55). Access and acceptance was provided by the University's formal structures. In this regard, the researcher motivated strongly that this research would be of benefit to the institution in a research proposal submitted to the relevant committees of the University. In keeping with ethical procedures and principles where human subjects have agreed to participate in a research study, the dignity and well-being of participants were important considerations throughout this study.

With regard to the interviews, questionnaires and requests for information, informed consent was obtained by the researcher from the participants. The researcher ensured that at the various stages of data collection, participants were fully informed about the purposes and procedures for the research. Participants were also advised of their right not to participate in the research, whenever this became necessary. The right of individuals who declined to participate was respected. All participants in interviews were assured of their right to confidentiality or anonymity. Where full anonymity was not possible, especially in respect of the “elite” interviews that were conducted with key personnel, for example Executive Deans of faculties, this fact was brought to their attention. In all instances, these informants agreed to the titles of their positions being used in the research. In the analysis of questionnaires completed by academic heads of departments, confidentiality was maintained through the omission of the names of the departments.

6.8 Summary

This chapter has outlined in detail the overall design of the case as well as the specific methods used within the three units of analysis. The rationale for the embedded, single case study is justified on the basis of the in-depth nature of the case. The limitations of the research study as a whole, as well as of the individual methods utilised have been discussed. Importantly, the efforts of the researcher to promote validity and reliability of the study have also been outlined in this chapter. These issues serve as a sound basis for the presentation of the research findings in the next two chapters.

CHAPTER SEVEN

RESEARCH FINDINGS: UNIT OF ANALYSIS ONE

7.1 Introduction

The research findings presented in this chapter are applicable to the research questions for the first unit of analysis of the case study. A restatement of the research questions is made for ease of reference:

Unit of Analysis One (the input indicators)

- *To what extent is the DUT poised to meet the input indicators of the enrolment plan?*
- *How effective is the handling of applications made by prospective students to the DUT through the Central Applications Office (CAO)?*
- *How effective are the DUT's student selection processes?*
- *How effective are the marketing and recruitment strategies used by the DUT to attract the required number of students at first year level that meet and exceed entry requirements?*

The first part of the chapter provides data on the 2008 year of enrolment released by the Department of Higher Education and Training (DoHET). The data is provided in the form of statistical tables which show the headcount enrolments as well as the other enrolment planning input targets viz. enrolment shape by major field of studies, enrolment shape by qualification type and the full-time equivalent (FTE) enrolments. The tables also reflect the DUT's performance in relation to the other Universities of Technology (UoTs) in the country. The data forms an important backdrop for understanding the findings in the next chapter, which is related to the output (success) indicators of the enrolment plan. The link between the input and output indicators is vital, since simply meeting headcount enrolment targets is but a part of the challenge

of enrolment planning. Arguably, a more critical aspect is whether the output (success) indicators are achieved.

The research findings for this chapter are presented in the following sequence:

- A quantitative presentation through statistical tables obtained from the Department of Higher Education and Training (DoHET) of the audited 2008 enrolments. The tables illustrate the DUT's performance in relation to the other UoTs. This presentation is necessary in order to establish whether and how the headcount enrolment targets and the other input indicators as set out in the enrolment plan were met. It also serves to illustrate whether any difficulties or challenges were experienced.
- A qualitative analysis of the handling of student applications by the DUT. This includes the results of a survey on the effectiveness of the Central Applications Office, as well as a presentation of data on the applicant pool.
- A qualitative analysis of the DUT's student selection practices.
- A qualitative analysis of the DUT's marketing and student recruitment practices.

7.2 A quantitative presentation of the meeting of enrolment targets

7.2.1 Headcount enrolment targets

TABLE 12: Headcount student enrolment totals for UoTs for 2008 (Source: DoHET, 2009)

Institution	Headcount Student Enrolments		
	Contact	Distance	Total
Cape Peninsula University of Technology	29 307	60	29 367
Central University of Technology	10 687	207	10 894
Durban University of Technology	22 381	0	22 381
Tshwane University of Technology	49 195	2 418	51 613
Vaal University of Technology	16 947	0	16 947
Mangosuthu Technikon	9 128	0	9 128

The above table reveals that the DUT achieved a headcount enrolment total of 22 381 students in 2008, according to official audited figures released by the DoHET. This

indicates that the university is well on track to achieving an enrolment total of 22 500 by 2010. It should be noted that the enrolment total was 22 800 in 2005, and the DUT planned to decrease its enrolments by 0, 3 % by 2010. Three of the other UoTs, as indicated in the above table, appear to be experiencing difficulties in achieving their enrolment planning targets: Mangosuthu University of Technology, which had an enrolment total of 9900 students and plans to enrol 10000 students by 2010; Tshwane University of Technology, which had an enrolment total of 60 400 students in 2005, and plans to enrol 56 000 students by 2010, and Vaal University of Technology, which had an enrolment total of 17 400 in 2005, and planned to enrol 18 500 students by 2010 (RSA:2007).

7.2.2 The meeting of other input indicators

Apart from the meeting of headcount enrolment targets, particularly at first year level, the other input indicators reflected in the national enrolment plan are: FTE enrolments, targets for enrolments by major field of study and targets for enrolments by qualification type.

7.2.2.1 Full-time equivalent enrolments

The target for FTE enrolments for the DUT by 2010 is 17 200. In 2007, the FTE enrolments were 16 900 (Source: MI). From Table 13 (below), it can be seen that in 2008, there was an FTE enrolment of 16 225. There is also a decrease from the 2005 FTE enrolments of 17 100, as shown in Table 6. This is worrying, since it denotes that fewer students are carrying a full curriculum load. It also suggests a trend towards a greater number of students failing. The table suggests that all UoTs are experiencing challenges in this area.

TABLE 13: Extract from Table: Full-time equivalent enrolments (FTE) of contact students in public higher education institutions in 2008 (Source: DoHET, 2009)

Institution	Contact				
	Science, Engineering & Technology	Business & Management	Education	Other Humanities & Social Sciences	Total (Target)
Cape Peninsula University of Technology	10 051	5 354	2034	4 364	21 803 (24 600)
Central University of Technology	3 828	2 129	651	1 745	8352 (8 800)
Durban University of Technology	7 205	5 040	275	3 706	16225 (17 200)
Tshwane University of Technology	15 091	10 338	1 196	11 870	38 495 (45 000)
Vaal University of Technology	5 930	4 013	64	2 217	12 224 (15 200)
Mangosuthu Technikon	3 615	1 762	0	1 446	6 822 (8 100)

7.2.2.2 Targets for enrolment shape by major field of studies

As indicated, the DUT's target for 2010 in respect of major fields of study is 50% in SET, 35% in Business and Management and 15% in Humanities and Education.

Audited figures indicate that the DUT's enrolment shape was as follows in the year 2007:

46% in SET, 36% in Business and Management and 18% in Humanities and Education (Source: MI).

For 2008, as Table 14 below reveals, the percentages are 49%, 34% and 17% respectively. In this area, the DUT does not appear to be experiencing any significant problems, since there is a clear movement towards the meeting of these targets.

TABLE 14: Enrolments by major field of study (Source: DoHET, 2009)

Institution	Major Field of Study				
	Science, Engineering & Technology	Business & Management	Education	All Other Humanities & Social Sciences	Total
Cape Peninsula University of Technology	14 410 (49%)	8 791 (30%)	3 186 +	2 980 = (21%)	29 367
Central University of Technology	5 313 (49%)	3 275 (30%)	869 +	1 437 = (21%)	10 894
Durban University of Technology	10 985 (49%)	7 633 (34%)	734 +	3 029 = (17%)	22 381
Tshwane University of Technology	20 195 (39%)	16 852 (33%)	3 845 +	10 722 = (28%)	51 613
Vaal University of Technology	8 971 (53%)	6 790 (40%)	152 +	1 034 = (7%)	16 947
Mangosuthu Technikon	5 404 (59%)	2 892 (32%)	0 +	832 = (9%)	9 128

7.2.2.3 Targets for enrolment shape by qualification type

The target for undergraduate diplomas by 2010 is 80%, for undergraduate degrees 18%, and master's and doctorate degrees, 2%. In 2007, the enrolment shape by qualification type was 81% in undergraduate diplomas, 17% in undergraduate degrees and 1.6% in master's and doctorate degrees. In 2008, the percentages are 80, 2%, 18% and 1, 6%, as Table 15 below shows.

The DUT already appears to have risen to the challenge of increasing its postgraduate intake by a variety of measures introduced by the VC in 2008. These measures included the formation of a Postgraduate Development and Support Office and an aggressive drive to recruit masters and doctoral students by introducing incentives in the forms of scholarships and remission of tuition fees for postgraduate students.

TABLE 15: Headcount enrolments by formal qualifications at Universities of Technology
(Source: DoHET: 2009)

Institution	Formal Qualifications						Total
	Occasional Students	Undergraduate Certificates & Diplomas	Undergraduate Degrees	Postgraduate, Below Masters Level	Masters Degrees	Doctoral Degrees	
Cape Peninsula University of Technology	29	20 673	7 094	767	698	106	29 367
Central University of Technology	1	7 996	2 385	265	189	58	10 894
Durban University of Technology	4	17 955	4 040	14	317	51	22 381
Tshwane University of Technology	3	41 129	8 700	475	1 163	143	51 613
Vaal University of Technology	27	15 052	1 661	19	159	29	16 947
Mangosuthu Technikon	0	8 970	158	0	0	0	9 128

7.3 Observations on the planning and coordination of student enrolments

While the DUT does not appear to be lagging behind the rest of the UoT sector in the achievement of the enrolment targets for the areas depicted in section 7.2 above, the researcher is aware that these targets were not achieved in a coordinated, planned manner. This is a concern for the institution from a planning perspective. From the researcher's observation of the enrolment process in 2008, the student registrations for formal programmes, including the modules in work-integrated learning, occur in a laissez-faire manner. That the meeting of headcount enrolment targets occurred at all was a pleasant surprise for the university's management, as the following discussion reveals.

The enrolment figures for the DUT as at 12 May 2008, several months after student registrations were concluded, including a period of late registrations, were as follows:

TABLE 16: Headcount comparisons per faculty of actual and planned enrolments for 2008 - as at 12 May 2008 (Source: MI)

Faculty	2008 Actual			2008 Planned			Difference		
	First time entering	Other	Total	First time entering	Other	Total	First time entering	Other	Total
Accounting & Informatics	1 405	3 449	4 854	1 561	3 302	4 863	-156	147	-9
Applied Sciences	367	902	1 269	482	984	1 466	-115	-82	-197
Arts & Design	650	1 933	2 583	851	1 819	2 670	-201	114	-87
Engineering & the Built Environment	1 017	3 548	4 565	975	4 106	5 081	42	-558	-516
Health Sciences	412	1 362	1 774	497	1 303	1 800	-85	59	-26
Management Sciences	1 392	3 673	5 065	1 645	3 497	5 142	-253	176	-77
Total	5 243	14 867	20 110	6 011	15 011	21 022	-768	-144	-912

The 2008 intake by the DUT did not conform neatly to the targets set in its enrolment plan, as shown by the above enrolment figures on a date that was well into the academic year. A fairly substantial shortfall in first time entering students viz. 768 students, and a shortfall of 144 students planned for enrolment at the other levels was experienced by the institution. The table shows that:

- five of the six faculties experienced a shortfall in enrolments of first time entering students;
- planned enrolments in the other levels were exceeded within four faculties; and
- a decline (558 students) in planned enrolments at the other levels was experienced by the Faculty of Engineering and the Built Environment (ESBE). The decline in this faculty however, appears not to have been a

serious problem at that stage, since many of these students were expected to return in the second semester, owing to the manner in which some programmes are structured in this faculty. It is also a fact that many students who were away from the institution, but engaged in work-integrated learning (WIL), do not formalise their registrations when required to do so.

At that late stage of the academic year (May 2008), there was serious concern about the consequences of enrolment targets for first year students not being met. These concerns would have been justified, since a direct consequence of lower enrolments is that the institution could encounter a deficit in expected government funding in 2010, since the government's block grant subsidy for teaching inputs for a given year (*year n*) is partly based on enrolment figures for year *n-2*.

The shortfall in first time entering students, and hence a reduced student pool, could also have a knock-on effect by the DUT failing to meet efficiency targets, especially in respect of the potential number of students that could graduate in 2010, the final year of the rolling plan. This will have negative subsidy implications. Several questions come to mind by the DUT's failure to meet enrolment targets for first year students in 2008. These questions are linked to the broad research questions for Unit of Analysis One. More narrowly, however, are questions such as:

- Was the DUT's applicant pool sufficient in numbers and quality to ensure that overall enrolment targets as well as the targets for the various programmes of study were met?
- Were the student recruitment and marketing practices informed by the needs of specific programmes and departments? This would be highly relevant should there have been cases of programmes where there were an inadequate number and quality of applicants.
- Are the personnel in academic departments tasked with making selection decisions aware of the planned enrolment targets, and was the selection

process effective enough? This would include the issue of whether there were adequate measures in place to make timeous selection decisions once applications were made to the institution.

- Were there any other issues that could have contributed to the DUT not meeting its enrolment targets? An issue that may have had an effect was the protracted student unrest over unpaid student fees and the resultant exclusion of a number of students at the commencement of the 2008 registration period.

As the enrolment totals in Table 12 indicate, the DUT did eventually meet its headcount enrolment targets. This is important, but is cold comfort from the point of view of enrolment planning. It is evident that late registrations occurred during the course of the year, and could be attributed to the offering of programmes in the second semester (a contingency plan) and the late registration of students engaged in work-integrated learning. The late registrations could also be attributed to students who may have been attending classes for a major part of the year, without being formally registered (due to financial problems), and then registering at later parts of the year. All of these aspects point to an inefficient selection and registration system, which leaves the meeting of headcount enrolment targets to chance. To add insight into some of the processes involved in admitting students at the DUT, the research findings in the following sections include the processes involved at the DUT in respect of student applications, marketing and student recruitment, the manner of student selections and a variety of issues that impact on these processes.

7.4 The handling of student applications

7.4.1 The role of the Central Applications Office (CAO)

All undergraduate applications to the DUT are made through the Central Applications Office (CAO) based in KwaZulu-Natal. The CAO was originally formed as a regional collaborative project by public higher education institutions affiliated to the Eastern Seaboard Association of Tertiary Institutions (esATI) in 1997.

When esATI dissolved in 2006, participating institutions, in seeing the benefits of the service, decided that the CAO should continue, and consequently the CAO became a Section 21 company. The CAO is referred to as a “one-stop shop” which administers applications on behalf of all the public higher education institutions in the province, including, since the 2009 application cycle, the nationally based distance education provider, the University of South Africa (UNISA).

Applicants can make up to six applications to any of the institutions affiliated to the CAO, and need pay only one application fee. Apart from the cost benefit to the applicant, other advantages are that applicants can view their selection decisions by individual institutions on the CAO website, and can make predetermined choices regarding institution and the programme of study, well in advance. A handbook is distributed by the CAO to all schools in the province and, on request, to schools in other provinces. The handbook details all the programmes of study offered by participating institutions, including their respective entry requirements. This enables applicants to make informed applications, and reduces unnecessary queries made to individual institutions. The handbook is also an effective recruitment tool for individual institutions, given its wide distribution and the level of detail of programmes offered by each institution contained therein.

Since applicants are required to apply to the CAO by 31 October of the year prior to admission, it is the responsibility of institutions to respond timeously to the applications by capturing appropriate selection decisions on the CAO website. This would indicate to applicants in advance whether they stand a chance of being accepted into a programme in the following year. Prior to the release of the Senior Certificate results (changed to the National Senior Certificate (NSC) in 2008), institutions are generally required to make a “conditional offer” to applicants that they wish to select, based on their Grade 11 and “trial” results. The conditional offer is tantamount to acceptance, so long as applicants meet the entry requirements in their examinations

(and in some instances additional tests). Once the Grade 12 results are downloaded onto the CAO's mainframe computer system in late December, institutions can make "firm offers", to which applicants are required to respond.

The categories of the various selection decisions and their meanings are as follows:

Waiting for a decision: the institution has not yet processed the application.

Awaiting results, short-listed and standby: the institution is considering the application but has not yet decided whether a place can be offered.

Entrance test and interview: the programme has additional/special selection procedures, and the institution will contact the applicant with details of these.

Firm offer: the institution has accepted the applicant.

Conditional Offer: the institution will accept the applicant provided the requirements for admission are met.

Late application: the application was received after the application date. Consideration will only be given to the application if a space is available.

Regret unsuccessful: the application has been rejected by the institution.

7.4.2 The significance of conditional and firm offers to applicants

From the researcher's observations over the years, the number of conditional offers made before the registration date has increased. Previously many departments had not seen the need to do this before registration dates, probably assuming there were a large number of applicants, and that as a result, the required numbers of students for their programmes would be met without much effort. From the point of view of applicants, a conditional offer serves as a form of reassurance to them and minimises uncertainty on their part. Since these offers are made on the basis of the results of Grade 11 or Grade 12 "trial" or "mock" examinations, applicants understand that they will have to maintain the same level of performance in the final Grade 12 examination to secure a place. This practice may also serve the purpose of not turning away applicants to other institutions who may be making offers of a place at the same time. However, even the making of conditional offers may not be enough to ensure that applicants with these

offers do accept their places at the institution, given the fact that a large number of applicants apply to more than one institution. It is submitted that the use of the option of the “firm offer”, which requires a “firm acceptance” by the applicant at the time that Grade 12 (now NSC) results are released, may be strategically necessary for departments to ensure that they do meet the input targets of the enrolment plan. In addition, the requirement of advance payment as a deposit by accepted students will also serve as an indication of their seriousness of accepting the offer of a place at the DUT. Not doing this entails placing a reliance on students arriving at the institution on the day of registration on the basis of the conditional offer made to them some months ago. Some departments have realised that the making of a conditional offer to a student does not necessarily result in the student accepting the offer of admission. Perhaps insisting on a “firm acceptance” from the applicant, by a stipulated date, to the firm offer made by the institution will serve as a clear indicator as to whether all programme spaces will be taken up. If the offers of places are not taken, then the institution will know whether to engage in further student recruitment interventions in order to secure the required number of students for a particular programme.

7.4.3 The effectiveness of the CAO in dealing with DUT applications: the results of a survey

As indicated in the section on the research methods adopted for this study, 1152 first-year students responded to a structured questionnaire on various issues related to their admission to the DUT. One of the questions in the survey of the first year students was “*Did you apply to study at the DUT through the CAO?*” The relevance of the question is twofold. Firstly, it assesses the extent to which the CAO has become “internalised” in the application practices of prospective students wishing to gain access to higher education in KwaZulu-Natal. Secondly, the responses to this question would indicate the extent to which academic departments still accept “walk-in” students rather than utilising only the CAO application system to make selection decisions. In this regard, it was observed over the years that a significant number of

selection decisions at the DUT were made through “walk-ins” viz. those that did not apply in advance through the CAO, but merely arrived at the DUT, hoping to be selected. Some departments did not respond to CAO applications by making early selections, and appeared to have rather accepted walk-ins, at the expense of those that had applied through the CAO. The reasons for this (as ascertained by participation at meetings over the years) vary across the relevant departments; some find it expedient to simply accept the applicants “in front” of them, rather than access the CAO system and record selection decisions. Other departments deliberately did this, citing the fact that advance selection decisions on the CAO system entailed placing confidence in the applicants’ Grade 11 and “trial” results, whereas walk-ins would present themselves with their actual results of the final Senior Certificate examination, and, according to these departments, this was a more reliable selection process. The institution’s management frowns upon the latter practice as being unfair to those who had applied to the CAO in advance, and furthermore, it is risky to wait for walk-ins, since the applicants on the CAO system, especially those with good results, could exercise one of their alternate choices and register elsewhere, if not responded to by the DUT. It has been found however, that a few departments have a record of receiving very few applicants, and hence welcome “walk-ins” as a means of filling their academic programme vacancies. If they do not do this, they could be vulnerable to closure. The survey results of the above question were that 85.1% of respondents had applied through the CAO, and only 14.8 % did not (0.2 % did not indicate a response). This can be interpreted as a positive development, with the CAO certainly “making its mark” at schools and the public at large, since a large majority of registered first year students had applied through the CAO.

A further question put to first year students in the survey was *“How were you informed that you had been given a place to study at the DUT?”*

44.2% of respondents indicated that they had been informed by the CAO that they had been given a place. The number of responses indicates that the CAO was effective in

notifying applicants of their selection statuses. It has to be noted that the CAO uses methods of communication that are preferred by applicants and stipulated on their application forms e.g. Email and SMSs, and the onus is on the applicants themselves accessing their denoted means of receiving communication.

7.4.4 The applicant pool for 2008

7.4.4.1 Number of applications received

One of the questions raised earlier was whether the DUT’s applicant pool for the 2008 intake was sufficient in numbers and quality in order that enrolment targets could be met. Table 17 below indicates the number of applicants (headcount) that applied to the DUT for admission in 2008 and the number that met requirements for admission:

TABLE 17: Applications cycle for 2008 (Source: CAO)

Headcount applications to DUT	2008
Total applications	27006
Total viewable applications	24570
Requirements met	11447
1 st Choice	9165
1 st Choice requirements met	3365

In 2008, the DUT received 24570 “viewable” applications, well in excess of the 6011 spaces for first time entering students as required in its enrolment plan. The “viewable” applications are those that complied with all requirements in their applications to the CAO, including the required documentation and application fees. A total of 27005 applications were received by the CAO on behalf of the DUT; however 2436 of these were not complete, and hence were not accessible to the DUT. It must be reiterated that the figures above refer to headcount applicants and not to the total number of *application choices*. Since a single applicant can make up to six choices the total number of application choices to the DUT was 70164, according to the CAO.

Of serious concern, however, is what the above figures reveal about the quality of applications received by the DUT. Only 11447 applicants met the requirements for admission after the release of their results. Also, while there was a total of 9165 “first choice” applications, only 3365 of these met the requirements for admission. It has to be pointed out also that there were applicants who did not have a DUT programme as a first choice. Their applications to a DUT programme could have been a second to sixth choice, and the first choice could have been to a programme at another institution. Such an analysis serves to indicate that the DUT cannot be complacent about its applicant pool solely because of the number of applications received, and that a great deal of interrogation of the quality of applications received will be required before students are admitted. In addition, marketing and recruitment must serve to build an application pool that is of a better quality.

7.4.4.2 Comparison with number of applications received with other institutions in KwaZulu-Natal

With reference to other institutions in the province, in most years the DUT has received a larger number of applications than the others, as the following table (Table 18) covering the application cycles 2005-2008, illustrates.

TABLE 18: Applications statistics per institution (Source: CAO)

At 28 February	2005	2006	2007	2008
University of KwaZulu-Natal	21 310	21 413	23 013	26 288
Durban University of Technology	21 122	23 586	24 907	27 006
Mangosuthu University of Technology	6 142	7 464	10 504	11 288
University of Zululand	5 622	9 502	11 572	12 971
University of South Africa	2 835	5 001	5 742	9 821

The comparison with the University of KwaZulu-Natal (UKZN), internally regarded as the DUT’s main “competitor” in the province, has to be placed in context when making this observation, however. The DUT, which primarily offers diploma programmes, generally has lower overall minimum admission requirements than the

traditional degree-offering universities such as UKZN. For the years referred to above, the traditional universities would have required a Senior Certificate with “matriculation endorsement” for admission, whereas a University of Technology (UoT) such as the DUT would have required as a minimum, simply a senior certificate, not necessarily with endorsement. In this context, one would have to assume that the applicants to UKZN generally had better passes.

Because a detailed analysis of the applications received by the DUT has never previously been done, the high numbers of applicants received by the DUT has, over the years, created a sense of confidence within the institution that enrolment targets would be met easily. It is probably as a result of the perceived high demand for DUT programmes from applicants who qualify, that recruitment of students has never been an institutional priority. Strategic plans at the DUT do not make specific reference to recruitment plans, and close scrutiny of student recruitment strategies do not feature as priorities of Executive Management. A closer look at the distribution of applications received for the various study programmes across the DUT was then undertaken, to establish whether the applicant pool alone would serve its overall student recruitment needs.

7.4.4.3 Distribution of application choices at the DUT

It has been observed over the years that there are specific programmes offered by the DUT that attract a high number of applications. An examination of application choices (this has already been explained to be 70164) made to the “top 10” or “high-demand” programmes in terms of application choices illustrates the following:

TABLE 19: Top 10 programmes at DUT (Source: CAO)

Programme	Spaces	Application Choices
N.Dip Information Technology	450	3274
N. Dip Emergency Medical Care	24	2759
N. Dip Radiography (All 4 programmes)	90	2642
N. Dip Human Resource Management	150	2048
N.Dip Marketing	130	2040
N. Dip Journalism	60	1973
N. Dip Public Relations Management	150	1891
N. Dip Architectural Technology	120	1729
N. Dip Eng: Civil	205	1719
N. Dip Biomedical Technology	30	1681
Total	1409	21756

The above table reveals that there is a marked unevenness in the spread of application choices across the DUT. More than a quarter (21756) of the total number of application choices in 2008 was concentrated in 10 programmes. The departments offering “high demand” programmes would have had little problem in sifting through the applications, and selecting the required number and quality of students for admission, whereas this may not have been the case in respect of programmes which do not attract such high numbers of applications.

Thus, for example, of the 1681 applications for the high-demand programme, the N.Dip: Biomedical Technology, only 30 could be selected. When considering the fact that applicants can apply to more than one institution, the number of applications received by the DUT is no guarantee that the application can be converted to a registration. Taking into account the fact that a large number of applicants to the DUT struggle to meet admission requirements, a different perspective to the “huge pool” of applicants which the DUT receives, is created.

Also of significance to the spread of applications is that while all the programmes received applications well in excess of spaces available, a scan of the number of applications per programme shows that a number of programmes received a relatively low number of applications. The number of applications received for some programmes were in the range of 200-300. Considering the fact that some of the applications to these programmes may not have been a “first-choice”, and that many of the applicants may not have met entrance requirements, it is likely that departments offering these programmes were hard pressed to meet their targets, for these reasons.

7.4.4.4 Applicants with scarce subjects

As indicated previously in the reference to the DUT’s enrolment targets, a challenge for the DUT is to ensure that enrolments are distributed by field of study as per the approved targets of the plan. Thus, for 50% of students to be registered in the Science, Engineering and Technology (SET) field, the applicant pool would have to include a sufficient number taking scarce gateway subjects such as Mathematics and Physical Science – and preferably at the Higher Grade (with reference to 2008). It was not possible to obtain data on the 2008 applicants to the DUT who possessed these subjects. However, Table 20 indicates the numbers of first year registered students with Mathematics and Physical Science and their respective grades (higher and standard) in 2008:

TABLE 20: Students with mathematics and physical science (Source: ITSS)

2008	HG	SG	TOTAL
Mathematics	1240	1987	3227
Physical Science	1310	920	2230

7.5 An analysis of student selection practices at the DUT

The manner in which student selections are made by individual departments could in itself be regarded as a student recruitment issue, and thus play a role as to whether students with ability are identified and whether these students eventually register with the institution. This assertion stems from the trend towards increasing competitiveness within the sector, including private providers. Many institutions use extensive marketing strategies to reach students, and are quick to respond to interest shown by applicants.

With regard to the CAO's 2008 Application Cycle, 90% of all their applications were received before 31 October of the year preceding admission, and the majority of their applicants made more than three choices of study (Knock, 2008). A significant problem at the DUT, however, is the fact that despite applicants applying for admission via the CAO, there are still departments that respond to these applicants rather late, in some instances, just prior to registration. There have been instances when applicants are informed that they are successful only when they arrive at the University during the registration period and make enquiries about the status of their applications. There have also been many instances when students have been advised that they are unsuccessful only when they make queries on their application status during the registration period.

7.5.1 Experiences of first year students with the selection process: the results of a survey

To gauge the extent to which applications to the DUT are made well in advance, a question put to first year students in a questionnaire was:

Was your application for a place to study at the DUT in 2008 made well in advance (i.e. in 2007) or was it made at the beginning of 2008, just before student registration?

The results of the survey revealed that 65.8% of students applied in 2007, 33.1% in 2008 and 1.1% did not respond. A large majority applied in 2007, indicating that academic departments at the DUT would have had considerable time to consider these applications, and make well-considered selections. The results also point to the fact that the closing dates for applications advertised by the CAO as well as the DUT are being recognised by applicants.

An important issue at stake is the responsiveness of departments to these early applications. To assess this, a question put to students in the survey was:

When were you informed that you had been given a place to study at the DUT?

1. in 2007; or

2. in 2008, just before student registration?

The relevance of the above question is that the DUT management has constantly advised the academic departments to make use of the “conditional offer” category on the CAO system to indicate an early selection decision to applicants. This would mean identifying those applicants with good ‘trial’ and Grade 11 results and offering them places. The conditional offer can be regarded as an acceptance into a programme generally, since applicants who have received a conditional offer have to maintain or improve their current level of performance (from their Grade 11 and trial results) in order to be enrolled. The purpose of the above question, then, was to ascertain the extent to which early offers of places, whether conditional or not, was made to first year students. It must be pointed out that there are departments that make conditional offers, but the final admittance of students is dependent on performance in aptitude tests, in addition to Grade 12 results.

The results of the survey revealed that 42.9% of respondents received notification during 2007 that they had been offered a place, and 56.7% were notified in 2008, just before student registration in January/February. 0.4% did not respond to the question.

From the researcher's observation on selection practices at the DUT over the years, staff in many academic departments return to the University after the year-end vacation around mid-January, and this is the period when selection decisions are made. The scheduling of selection and aptitude tests also occur at this time for many departments, although a significant number of departments do schedule these tests prior to the December vacation period in 2008, at the request of Executive Management.

The risk arising from the practice of deferring selections is the possibility of these applicants taking up offers made by other institutions. The practice is also unfair to applicants who adhere to the DUT's policy that prospective students are to apply for admission to the CAO before 31 October of the preceding year. Nevertheless, it has to be pointed out that the above figures, while not ideal, represent, in the researcher's opinion, an improvement in the use of the CAO to respond to applications, compared with earlier practices where a large of students admitted were "walk-ins".

7.5.2 Experiences of first year students with the selection process: the results of interviews

An attempt was made by the researcher to obtain further evidence on the issue of selection practices at the DUT, in particular to ascertain the views of students who are not informed in advance about the status of their applications at the time of registration. In this regard, the researcher interviewed a number of students at random, when they arrived at the DUT Admissions Office in January 2008, seeking clarity on their applications. A transcript of one of the interviews reveals the disappointment of these students:

Researcher: Thobeka, you have arrived here to be admitted to the university. Did you complete school last year, and what did you apply to study for?

Thobeka: Yes, I wrote my matric last year, and I applied to do (name of course omitted)

Researcher: And how were you told whether you had a place or not?

Thobeka: No, I was not told anything. I called and called, and I could not find out. Then last week I called again, and was told to come in on Monday.

Researcher: And then what happened?

Thobeka: I was told that I did not have a place. There were students who were told to come in and write an aptitude test and I was not asked.

Researcher: And how did you feel about being told about this at this late stage – and what are your options now?

Thobeka: I felt very sad....then I knew that I had made other applications for other studies, and I thought one down, four to go... I went to ask about my application to do (name of course omitted)

Researcher: Were you accepted to study (name of course omitted)?

Thobeka: They didn't actually say – they said I must certify all my documents, and come back. I also went to ask about my application to do (name of course omitted)?

Researcher: And what were you told?

Thobeka: I was told to come in on Friday.

Researcher: To do what?

Thobeka: To write a test.

Researcher: And will you write the test, and if you are successful, will you study (name of course omitted)?

Thobeka: Yes, I will study (name of course omitted) if I am accepted.

Researcher: What would you have liked to study?

Thobeka: My first choice was (name of course omitted) – but I will study (name of course omitted) if I am accepted.

Researcher: Any comments about how applications are treated at DUT?

Thobeka: It is not working. You don't hear anything. You must call to find out – they don't tell you anything.....

Another student that applied through the CAO was Zinhle, who did not get a response from the university. The transcript of the interview is as follows:

Researcher: What did you apply for?

Zinhle: I applied for (name of course omitted) and (name of course omitted).

Researcher: Did you get a place?

Zinhle: No, when I went to the departments, they told me they were full.

Researcher: And what will you do now?

Zinhle: I am going to register for (name of course omitted).

Researcher: Were you accepted?

Zinhle: Yes.

Researcher: But you didn't have (name of course omitted) on your application?

Zinhle: No.

Researcher: And how did you know that you can get a place to study (name of course omitted) without applying for this through the CAO?

Zinhle: My friend, Neliswa told me – you just go there, and you may get a place...

A focus group interview was conducted with three students who had arrived at the DUT's Admissions Office seeking information on the status of their applications. The transcript of this focus group interview follows:

Researcher: Bongani, what did you apply to study for?

Bongani: My first choice was to do (name of course omitted) at University of Zululand, and then I wanted to do (name of course omitted) UKZN.

Researcher: And what was the result of your application?

Bongani: I had a problem with my results – I did not get the points.

Researcher: So your results were not good?

Bongani: No, it was not good... I did not get a pass to do degree study, but I passed to do diploma study.

Researcher: Did you apply for study at the DUT?

Bongani: Yes, I applied to do (name of Engineering programme).

Researcher: Do you think you will get accepted? Were you given any response?

Bongani: I am hoping to get accepted. No, I did not hear anything, so I came here to find out.

Researcher: How were your passes in Mathematics and Physical Science- you know these are important subjects for Engineering?

Bongani: They are not too good... I got 32% for Mathematics and 30% for Physical Science...

Researcher: Did you know that you can apply to study at a Technical College?

Bongani: No, I don't know about that...

Researcher: And you, Sanele, did you apply through the CAO?

Sanele: Yes, I did apply, but I got no response.

Researcher: When did you apply?

Sanele: I applied....I think, September last year.

Researcher: And the institution did not tell you whether you were accepted?

Sanele: No, the CAO told me that they received my application, but after that I did not hear anything.

Researcher: What did you apply for?

Sanele: (name of course omitted) and (name of course omitted), and I only applied to the DUT.

Researcher: And how were your results in the NSC exams – do you qualify for admission to these programmes?

Sanele: Yes, I meet the requirements.

Researcher: And you, Sifiso, did you apply through the CAO?

Sifiso: Yes, I applied to do (name of course omitted) and I came here today to find out if I am accepted.

Researcher: So you were not told anything about your application?

Sifiso: No, that is why I am here.

In another interview, it was established that a student who had not applied through the CAO, had been given a place by the department concerned. The transcript of the interview follows:

Researcher: Linkwood, why have you come to the DUT today?

Linkwood: I came to apply for a place to do (name of course omitted).

Researcher: Did you apply through the CAO?

Linkwood: No, I didn't, I don't know about the CAO.

Researcher: You haven't heard about the CAO?

Linkwood: No.

Researcher: Where did you go to school?

Linkwood: I attended a private school in Pietermaritzburg.

Researcher: Were you given a place to study (name of course omitted) at the DUT?

Linkwood: Yes, I went to the department today, with my results. They looked at it, and told me that I was accepted, and told me when to register.....

The interviews above reveal that there is still a great deal of inefficiency and a lack of a coordinated approach to dealing with applications. It is alarming that there are applications on the CAO system with no formal response by the institution. From the point of view of the institution, the lack of responses from departments can be damaging to the institution in that good applicants can seek admission elsewhere. From the point of view of the applicant, the application for admission to a university is an important career step, and one would assume, an anxiety filled process, since there is much uncertainty around the outcome. Thus, for applicants with good school leaving passes, delays in responding to applications may well have the effect of sending a signal that the institution is not interested, leading them to seek admission elsewhere. The interviews reveal that perhaps many of these applicants do not have suitable passes in the school-leaving examinations, and hence departments have not responded to them, but have perhaps made selection decisions to those that they wish to be admitted. However, the broader societal implications of not communicating

“regret unsuccessful” decisions to these applicants need to be considered by the university.

From the point of view of these applicants who simply do not stand a chance of being accepted, by having poor results, they should also be responded to early enough, in order that they may seek admission into other programmes, or even other institutions.

These applicants may not be considered suitable for admission to a DUT programme; however, they could study at a number of alternative institutions, including those within the FET sector. The late response by the DUT could jeopardise their chances of applying for admission elsewhere.

7.5.3 The roles of heads of departments (HODs) in student selection

7.5.3.1 Participant observation at a planning meeting

At the conclusion of the January/February 2008 student registration period, when the shortfall in enrolments became apparent, the VC called a meeting on 8 April 2008 with Executive Deans of Faculties and academic HODs to discuss the issue of enrolment planning with the aim of reviewing practices for student selection as well as to ensure that adequate measures were put in place for improving success, graduation and throughput rates. At this meeting, which the researcher attended in his official capacity, the matter of the failure of departments to meet enrolment planning targets in 2008 was discussed. From the discussions at the meeting, it became apparent that there had been a number of flaws in the projection of first time enrolments as submitted in the enrolment plan approved by the DoE. The circumstances under which the targets had been determined and submitted to the DoE have already been reported.

Some HODs pointed out that their projections of first time enrolling students were unrealistic owing to capacity constraints (referring to space for students in lecture rooms and laboratories, as well as staff-student ratios). This was a clear indication that there were departments that had not carefully considered their submissions when these were requested during the drafting of the enrolment plan submitted to the DoE. Others

were evidently unaware of the targets that had been set and hence accepted students on their own perceived or historical targets, taking into account issues of capacity. Even at the end of 2008, some HODs were ignorant of the approved targets. A higher than expected failure rate of first year students in some programmes, and the subsequent increase in the number of repeating students in those programmes militated against some HODs admitting first time entering students strictly in accordance with projections made in the enrolment plan.

With regard to the surplus of enrolments at other levels within certain faculties, it was pointed out at the meeting that this did not signify a positive development, since this increase could simply point to a larger number of repeats (student failures), including final level students, who would not be able to graduate in regulation time. A presentation on the 2008 application cycle, as well as the matter of selection decisions by academic departments (the details are presented later in this section) was made. The Vice-Chancellor stressed the need for a better level of planning within academic departments in order to meet the DoE benchmarks in respect of graduation rates and throughput rates, the need to increase postgraduate student intake, and the need to make earlier selection decisions in the future, and follow through with these to confirm the actual registrations of students that had been given offers of places.

The meeting concluded with the following recommendations:

- To once again offer S1 (level 1) in semesterised programmes (particularly Faculty of ESBE) in the second semester (June). The practice of admitting students to the S1 level (first level) at the commencement of the second semester had been suspended by the Faculty. Reinstating the practice would give the DUT a chance to increase the number of first time entering students for 2008, given the shortfall experienced. It is noteworthy that this recommendation, together with the regular, scheduled second semester registrations in the Faculty of Management Sciences had resulted in the

shortfall of first-time entering students from 768 to 518, after the second semester registrations, being reduced.

- To improve the student selection and placement process at DUT by centralising part of the selection processes. This would entail delegating more responsibilities to the Student Admissions division. The Registrar was directed to commence discussions with Faculties in this regard.

7.5.3.2 A survey of student selection processes within departments: responses of heads of departments

In the questionnaire to academic heads of department on issues relating to student enrolment planning at the DUT, a Likert-type rating scale was used to establish their perceptions and views on aspects of the student selection processes within departments. The rating involved the heads of departments' level of agreement about the following statements:

- Student selection processes affect success outcomes in my department.
- Student selection through the Central Applications Office (CAO) system is an effective method.
- It is better to wait for the actual Grade 12 results of learners before making any selection decision.
- It is premature and therefore risky to make selection decisions based on Grade 11 or trial results.
- If early selections based on trial or Grade 11 results are not made, applicants may go elsewhere to study.
- There is a need for aptitude or other selection tests for admission to certain programmes.

The results of the survey are as follows:

1. Student selection processes affect success outcomes in my department.

There appears to be a clear recognition within academic departments, from the results of the survey of the heads of departments that careful student selection leads to academic success of the department. 44, 4 % of the heads *strongly agreed* with the above statement, and 33, 3 % *agreed* with it. Only 13, 9 % *disagreed*, while 2, 8 *strongly disagreed* with the assertion.

2. Student selection through the Central Applications Office (CAO) system is an effective method.

There is clearly a lack of agreement amongst the heads of departments on the effectiveness of student selection through the CAO. The results probably account for the fact that some departments make effective use of the CAO, while others do not, as explained earlier. Only 5, 6 % *strongly agreed* with the above statement, and 22, 5% *agreed* with it. A further 22, 2 % were *undecided*, while 27, 8% and 13, 9% respectively *disagreed* and *strongly disagreed* with the statement.

3. It is better to wait for the actual Grade 12 results of learners before making any selection decision.

The results of the survey in respect of this statement and the next serve to emphasise that there is a measure of reluctance amongst many departments to make selection decisions before the final Grade 12 results are seen. 30, 6 % of the heads *strongly agreed* with the statement, and 19, 4% *agreed*. A further 8, 3% were *undecided*. There were a significant number of departments that disagreed, however. 27, 8 % *disagreed* with the statement, while a further 13, 9% *strongly disagreed*.

4. It is premature and therefore risky to make selection decisions based on Grade 11 or trial results.

The responses to this question corroborated the results of the previous one. They show that there is reluctance amongst departments to make selection decisions on performance of examinations other than the final Grade 12 examination.

22, 2 % of departments *strongly agreed* with this statement and a further 25% *agreed* with it. 16, 7 % of the respondents were *undecided*. 19, 4% *disagreed* with the statement and 16, 7 % *strongly disagreed*.

5. If early selections based on trial or Grade 11 results are not made, applicants may go elsewhere to study.

19, 4% of respondents *strongly agreed* with the statement and 38, 9% *agreed*. This shows that the majority of heads (58, 3%) do take cognisance of the risks associated with not making early selection decisions. 13, 9 % were *undecided* on this issue, while 25 % and 2, 8 % *disagreed* and *strongly disagreed* respectively.

6. There is a need for aptitude or other selection tests for admission to certain programmes.

A majority of the respondents were in agreement with this assertion, indicating that the NSC results alone do not make departments comfortable about their selection decision. 41, 1 % of respondents *strongly agreed* with the statement and 36, 1 % *agreed*. Only 2, 8% *disagreed* with the statement, and a further 2,8% *strongly disagreed*.

Additional comments:

Some of the additional comments recorded by heads of departments were:

- Selection tests are absolutely necessary
- The CAO system does not work for us
- Provisional enrolment by students is helpful for planning purposes

The above survey revealed that there is a strong awareness of the need to attract “quality” students. However, the reluctance to acknowledge the presence and role of the CAO as an application system is a major concern, as the goal of attracting these “quality” students could be compromised. The results of surveys with students show the frustration of students with this reluctance. Further, there is a perception that the making of provisional offers is counter-productive, which may also lead to good students accepting places elsewhere.

7.6 Marketing and student recruitment practices at the DUT

7.6.1 The role of the Division of Corporate Affairs (CA)

Marketing and student recruitment at the DUT are managed by an Executive Director (ED): Corporate Affairs (CA). In an interview conducted by the researcher with the ED: CA, it was clarified that the primary role of CA is to conduct marketing at the “macro-level” of the institution. These marketing initiatives support the recruitment effort, which is coordinated by the student recruitment section. Marketing, according to the ED: CA has the objective of improving the profile and image of the DUT and this largely takes the form of advertisements in newspapers, radio and television, national career guides and publications selected by academic departments. Marketing also takes the form of “billboard” posters encouraging applications to the DUT, promotional items such as bookmarks which are distributed at schools, and posters placed in areas from which students have traditionally come.

The extent to which marketing takes place is determined by CA’s annual budget, which, according to the ED is insufficient in comparison to marketing budgets at comparable institutions. The budget does not generally make provision for the marketing of specific programmes, or for meeting specific targets of the enrolment plan. The DUT does not allocate a budget for contingency advertising when departments anticipate or encounter the problem of receiving too few applications for a programme. The Executive Director reported that there ought to be a budget for

specific advertising for individual programmes, but the Finance Department will not approve this (ED, Corporate Affairs: 2008).

Perhaps because the focus of the Division of CA is on the broader aspects of marketing, the ED: CA does not play any specific role in meeting the targets of the enrolment plan. In fact, the ED: CA has had no sight of the plan, and was not part of any planning for its implementation. The ED was not included in discussions on the issue of the institution not meeting its first year enrolment targets for 2008. When asked what the shortfall in student numbers in 2008 could be attributed to, the ED:CA was of the view that

“academic staff did not do what they had to in respect of selections.....by departments responding late in many cases, applicants came to believe that the DUT had forgotten about them. We had the applications, the CAO figures are proof of that - we just didn't do our bit” (ED, Corporate Affairs: 2008).

The ED: CA further added that the goal of projecting a positive image of the DUT was made difficult by the fact that there had been incidents of mugging, theft and rioting on the campus which added to the perception of an unsafe environment. The Department of Protection Services had not succeeded in ensuring that the campuses were safe at the beginning of the year for student registrations. The student protests at the beginning of 2008 at the university were not managed well, according to the ED: CA and such occurrences could impact on student choice in respect of tertiary study. Part of the problem giving rise to this student unrest was a lack of effective communication on the DUT's part with regard to its decision to refuse re-admission to students with their tuition fees in arrears (ED, Corporate Affairs: 2008).

7.6.1.1 Planning for marketing

During the course of 2008, the ED: CA arranged a workshop with all staff in her division and produced a draft planning document entitled “Marketing Strategic Plans 2008-2012”, which has yet to be approved by the DUT's Executive Management. The purpose statement of this plan states that CA “is in the business of innovation,

differentiation and communicating the DUT brand” (DUT, 2008: 1). Of significance is that while there is recognition that the marketing and recruitment effort should be directed to faculty goals, the acknowledgement of the approved enrolment plan of DUT and a related marketing strategy that takes into account the various facets of an enrolment plan is not evident. This becomes apparent in the paragraph under “Recruitment” where it appears that there is no acknowledgement of the fact that targets for enrolments in specific programmes and broad fields of study have already been determined. Also, the fact that the enrolment plan should direct the marketing and recruitment effort at the DUT (and not the converse) appears to be in conflict with the following extract:

“Faculties need to set targets and deadlines to fill their programmes, and their prospective student specifications should be clearly defined. Recruitment needs to direct the enrolment programmes accordingly...” (DUT, 2008:9).

There are, however, many encouraging features of the draft plan, such as the emphasis on research, measurement and evaluation for marketing, and the reference to a review process based on “tracking the ratio of enquiries registrations”, and reviewing “registration status reports” (DUT, 2008:11). In addition, the plan speaks of recruiting “quality students”, and acknowledges that “marketing is strategic and successful only if it is an integrated university-wide activity” (DUT, 2008:3). The plan could perhaps be enhanced if the concept of identifying subgroups in the target market is endorsed, and detailed, specialised communication strategies for different and identified market segments are spelt out. Also, the manner in which the DUT will differentiate or position itself, in order to attract quality students, as indicated in the plan, has to be clarified. It has to be emphasised that the marketing plan is still in a draft stage, and hence it may be assumed that such issues will be clarified in the final release of the plan by the Division of CA.

7.6.1.2 Effectiveness of marketing: the perceptions of first year students

One of the aims of the questionnaire administered to first year students was to establish some of the reasons why students had opted for the DUT as a place to study. Part of the motivation for the question “*What made you eventually decide to study at the DUT?*” was to test the strength of institutional market positioning in respect of the DUT’s “academic reputation”, as well as to assess whether students opted for the DUT because they believed that they could get employment easily with a DUT qualification. The issues of DUT’s academic reputation and the employability of graduates are the dominant themes in marketing messages sent out by the DUT, and hence we can assume that these are the main ingredients of its marketing “positioning”, a term used to differentiate what the institution offers in relation to others (Grabowski, 1981:10). Respondents were not restricted to one answer only, and were asked to list all the reasons they considered important when deciding to study at the DUT.

From the responses, 45.1% included the reason “I believe I can get employment more easily with a DUT qualification” from the list of reasons for joining the DUT.

39.7% included the reason “DUT has a good academic reputation”, and 42.0% included the reason “I know of other people who have studied at DUT”. 16.4% chose the reason “I could not get entry at any other institution”, and 14.9% listed “another reason”.

7.6.2 Student protest in 2008 and its impact on the DUT’s image

The matter of the student unrest that occurred at the beginning of 2008, during the student acceptance and registration stages, needs to be mentioned here. It is a commonly held view at the DUT that the incident and the resultant wide media coverage tarnished the image of the institution and led to students choosing not to register there. As an Executive Dean commented in an interview with him by the researcher, “*If I were a parent with my child registered here, and I had seen the*

rubbish that was going on, I would have insisted that he looks elsewhere to study”
(Executive Dean A : 2008).

One of the senior staff members at DUT who played a major role in attempting to defuse the student unrest through negotiations and discussions with members of the Students Representative Council (SRC) was the Executive Assistant to the Vice-Chancellor. When interviewed by the researcher on the impact of the violence during the student protest on first year student enrolments, he stated,

“...it is a difficult question to answer categorically. Certainly, the statistics show that we did not meet our targets, so there is a possible link... however, I am of the view that students who had decided to study at the DUT would have registered in any event; they may have waited for the disruptions to pass, but they would have registered, largely because they may not have had any further choice for their studies..”
(Executive Assistant to VC: 2008).

He added that student unrest, while unacceptable in the manner it occurs at times, occurred with such regularity at higher education institutions, that it would not have been regarded with total surprise by parents and prospective students. However, he also cautioned that there were a number of students who have other options for study, so unrest as experienced at the beginning of 2008 may dissuade such students from registering with the DUT in the future. The Executive Assistant to the VC was also sceptical about the motives of student leaders who led such student protests, stating that *“we are aware that national student movements look to the DUT to further political agendas, and they often use the DUT as a “test site” for student protests”*
(Executive Assistant to VC: 2008).

The protests, which arose as a result of forced, financial exclusions of a group of students that were in substantial arrears with their tuition fees, turned violent during the registration period when a mob of students prevented new students from registering, clashed with security personnel and stoned motor vehicles and the windows of office buildings, including those of the VC’s office. These violent incidents occurred in full view of registering students and those parents who had

accompanied them. The actual impact of the student riots on the 2008 intake of first year students is not clear. While there were some reported instances of parents insisting that their children be de-registered as a result of these riots, the extent of this is unknown.

7.6.3 The impact of the physical appearance of the DUT on its image

Another factor that has an impact on the image of the DUT, and damages attempts at marketing the institution is the general appearance of the campuses, and an apparent lack of attention to the maintenance of the grounds and buildings, according to the ED: Corporate Affairs. She stated that “*marketing of the DUT would also be assisted if the Maintenance Division paid more attention to the general upkeep and tidying of the campus, especially during the recess periods prior to student registration*” (ED, Corporate Affairs: 2008).

This criticism of the DUT’s image through the general appearance of the campuses was echoed by an Executive Dean in an interview conducted by the researcher. According to the Executive Dean, the leaking roofs and the sight of broken beer bottles outside some departmental buildings causes harm to the goal of recruiting top students to the faculty. This respondent stated that “... *aesthetics have to improve... (the buildings) do not look like a higher education environment... there was also little work done on the signage of the buildings in the faculty*” (Executive Dean C: 2008).

7.7 Student recruitment

7.7.1 Interview with the Manager: Student Recruitment

The student recruitment section within the Division of CA consists of a Manager and two student recruitment officers. According to the Manager: Student Recruitment (SR), in an interview conducted by the researcher, the primary activities of student recruitment are:

- a) School visits, where the staff members make presentations about the DUT and the programmes it offers to grade 12 learners at schools, using a prepared

- slide presentation. Academic programme information and other promotional material are distributed to these learners at the conclusion of the presentation;
- b) Attendance at career fairs organised by the provincial Department of Education and other private organisers; and
 - c) Hosting visits by schools to DUT campuses.

In addition to the above, the student recruitment unit also organises a major careers fair annually which is held at the DUT over a few days, where Grade 12 learners are given the opportunity to visit the university and to view exhibitions on individual DUT programmes (Manager, Student Recruitment: 2008).

With enrolment planning in mind, two specific questions were put to the Manager: SR: a) *“Does the institution provide you with any directives/guidelines in respect of student recruitment?”* and b) *“Does the institution’s enrolment plan play any role in student recruitment?”*

In respect of a) above, the Manager: SR stated that the main criteria for the choice of schools to visit were good passes in the previous Grade 12 examinations, as well as “feeder” schools – those schools from which high numbers had registered at the DUT in previous years. According to him, no other guidelines are given. In respect of b) above, the Manager: SR indicated that the institution’s enrolment plan played no role in shaping or guiding the activities of student recruitment.

According to the Manager, the main obstacle facing the unit is a lack of resources. He stated that the equipment that was used for presentations was not up to standard, and more staff was needed for the unit to be more effective. He was of the view that a committee should be formed which would meet on a regular basis to discuss issues of student recruitment (Manager, Student Recruitment: 2008).

7.7.2 Student recruitment initiatives at DUT: a survey of first year students

Regarding the effectiveness of the student recruitment effort, particularly in respect of the visits to schools, a question put to respondents in the survey of first year students referred to previously, was:

“Did anyone from the DUT visit your high school to persuade you to study here?”

A total of 237 respondents answered “yes” (20.6 %), and 912 respondents (79.2) answered “no”. 0.2% did not respond to the question. Taking into account the number of staff members in the unit that undertakes these visits, and the lack of resources reported by the Manager: SR, a fair number of schools had been visited by the unit. Of more significance however, is that the vast majority of those who had applied and had been accepted at the DUT had done so without a visit by the DUT’s SR department.

The DUT also invests a significant amount of resources into the annual “careers fair” or “open week” as the event is also referred to. A question put to respondents was:

“Did you attend the careers fair organised by the DUT in 2007?”

The responses indicated that only 19.1 % of first year students registered in 2008 had visited the DUT’s careers fair in 2007 while they were faced with the choice of tertiary institution. As with the initiative of visits to schools by DUT’s SR division, the majority of first year students (80.6%) had registered at the DUT without attending this major recruitment initiative. 0.3% did not respond to this question.

It must be noted that the DUT’s SR department also participates in a number of educational and careers fairs throughout the year, together with other tertiary institutions, including careers fairs organised by the provincial Department of Education. With this in mind a further question included in the questionnaire was:

“Did you attend any careers fairs while you were at high school, apart from the one organised by the DUT, where the DUT provided information about its study programmes?”

40.9% of respondents indicated that they had attended, while 58.5% indicated that they did not. 0.6% did not respond to the question. It would appear that these provincial career fairs were attended by a significant number of first year students, and probably played a greater role in influencing university choice than the initiatives organised exclusively by the DUT.

7.7.3 Student recruitment at the DUT: perceptions of academic heads of departments

In the questionnaire to academic heads of department on issues relating to student enrolment planning at the DUT, a Likert-type rating scale was used to establish their perceptions and views on aspects of marketing and student recruitment. The rating involved the heads of departments' level of agreement about the following statements:

- Student recruitment initiatives by the DUT's support departments will generate suitable applicants for my department.
- My department is involved in student recruitment in addition to the initiatives by Corporate Affairs and the Student Recruitment department.
- Programmes in my department do not need marketing; they "sell themselves".
- Programmes in my department attract more than sufficient numbers of applicants from which to select.
- The DUT's Open Week\Careers Fair is an important initiative for student recruitment.
- The quality of applicants to programmes in my department is generally good.

The results of responses by heads to the survey are provided below:

1. Student recruitment initiatives by the DUT's support departments will generate suitable applicants for my department.

There appears to be confidence in the attempts by the support departments (located in the Division of Corporate Affairs) to recruit suitable students for the DUT. However, a significant number were undecided or disagreed with the statement. 19, 4 % of the

heads strongly agreed with this statement, and 38, 9% agreed. 13, 9% were undecided about this assertion, 13, 9% disagreed, and 13, 9 % strongly disagreed.

2. My department is involved in student recruitment in addition to the initiatives by Corporate Affairs and the Student Recruitment department.

From the responses to this statement, there are a number of departments that appear to be participating in “independent” student recruitment initiatives. 25% strongly agreed with the statement, and a further 33, 3 % agreed. 13, 9% appear to be undecided whether the activities engaged in can be classified as recruitment, 19, 4% disagreed with the statement and 8, 3% strongly disagreed.

3. Programmes in my department do not need marketing; they “sell themselves”.

The majority of respondents were not in agreement with this assertion. 33, 3 % strongly disagreed with the assertion and a further 19, 4 % disagreed. 11, 1% was undecided about the statement. There were, however, 8, 3 % of departmental heads that strongly agreed with the statement and 22, 2% that agreed.

4. Programmes in my department attract more than sufficient numbers of applicants from which to select.

A clear “split” amongst departmental heads is apparent from the responses to this question. 27, 8% of departments strongly agreed that their programmes attracted a more than adequate pool from which to select students, while a further 25% agreed. 2, 8% of the respondents were undecided. However, 27, 8 % disagreed with the assertion and a further 11, 1 % strongly disagreed. These responses reflect the fact that at the DUT there are a number of popular programmes that always attract a large number of programmes each year, while with other programmes the applicant pool may not be as large.

5. The DUT's Open Week/Careers Fair is an important initiative for student recruitment.

The DUT's Open Week, coordinated by the Division of Corporate Affairs, and which involves participation by academic departments, is evidently highly regarded by academic heads of departments as a recruitment initiative. 19, 4% strongly agreed with this statement and 38, 9 % agreed. 16, 7% of respondents were undecided. 11, 1% disagreed with the value of the Open Week, and a further 11, 1% strongly disagreed.

6. The quality of applicants to programmes in my department is generally good.

A small majority of the heads of departments did not agree with this assertion. 38, 9% disagreed, and a further 13, 9% strongly disagreed. There were also 4 respondents (11, 1 %) that were undecided. 25 % agreed with the statement, and 8, 3% strongly agreed. It can be reasonably inferred that heads of departments are not confident about the quality of applicants to their programmes.

Additional Comments:

Some of the additional comments listed by heads of departments were:

- Applicants do not have good passes in Mathematics
- We are not attracting students from top schools
- Our initial application list is good, but when applicants get accepted elsewhere, we lose them
- The DUT support staff are not knowledgeable about academic disciplines when marketing our programmes

7.8 Summary

The findings for the specific areas of research conducted within this unit of analysis have emerged from a number of different methods of data collection. The use of multiple methods for data collection has resulted in the desired convergence of evidence, and a brief summary of the findings are presented in the following sections.

It is intended that more detailed discussions and conclusions will be presented in the final chapter.

7.8.1 The meeting of input indicators

The quantitative presentation of statistical tables obtained from the Department of Higher Education and Training (DoHET) of the audited 2008 enrolments addressed the first research question for this unit of analysis, viz. *To what extent is the DUT poised to meet the input indicators of the enrolment plan?* The results indicate that the DUT is well poised to meet the headcount enrolment targets by 2010. Of concern, however, is the manner in which the headcount enrolments were achieved in 2008, since many of the registrations occurred in an unplanned, uncoordinated manner. With regard to the other input indicators of the enrolment plan, the DUT is also performing satisfactorily, with the exception of the FTE enrolments which are worrying, since they suggest a trend to increasing failures as more students were not carrying a full curriculum in the year of registration.

7.8.2 The analysis of the handling of student applications

The chapter included the results of a survey on the effectiveness of the Central Applications Office, as well as a presentation of data on the applicant pool. While the CAO as an entity that is commissioned to deal with student applications is a stable, well-performing organisation, the application pool is a cause for concern. A study of application statistics and institutional records indicate that there are certainly more applications than there are places at the DUT, but a large number do not meet entry requirements, and a large number are concentrated in a few high-demand programmes. This has implications for the marketing and recruitment practices at the DUT.

7.8.3 The analysis of student selection practices

Research findings were presented from:

- A survey of first year students
- Interviews with first year students

- A survey of heads of departments
- Observation and participant observation

The convergence of findings points to an inefficient framework for student selection at the DUT. There appears to be scant regard for the benefits afforded to the identification of quality students who have applied through the CAO, and for the benefits of using marketing practices to see to it that such quality students register with the DUT.

7.8.4 Marketing and student recruitment practices at the DUT

Research findings for marketing and student recruitment were presented from:

- Interviews with key personnel at the DUT
- A survey of first year students
- A survey of heads of academic departments
- Observation and participation observation

The findings reveal that marketing appears to be located more at the operational than at the strategic level at the DUT, with the goal of enrolment targets not featuring prominently in the work of recruitment and marketing personnel. Further, research on marketing practices does not appear to be used, and hence strategies for recruitment, for example the Careers Fair, do not achieve their goals. Also, there is a lack of coordination of the marketing effort, since some departments conduct independent marketing initiatives, which are not known to the institution at large.

CHAPTER EIGHT

RESEARCH FINDINGS: UNITS OF ANALYSIS 2 AND 3

8.1 Introduction

This chapter presents the research findings for the research question applicable to Units of Analysis Two and Three. A restatement of the research questions is provided at the outset, for ease of reference:

Unit of Analysis Two

- *How is the DUT positioned to meet the output targets of the enrolment plan viz. the success rates, graduation rates and throughput rates?*
- *How is enrolment planning being effected at the DUT? Specifically, what are the processes, mechanisms and structures used to coordinate the planning and implementation of the policy, and how effective are they?*

Unit of Analysis Three

- *Why do students leave the University prematurely?*
- *What are the present activities of students who have dropped out of studies from the DUT?*
- *Do the dropout students wish to return to the DUT to continue with their studies?*

The chapter commences with the researcher's account of how specific student enrolment efficiency indicators were introduced at the DUT by government. This is inserted in the study largely to affirm the clarity of goals of the policy on student enrolment planning, which is an important part of policy implementation. In addressing Unit of Analysis Two, the following are presented:

- i) Statistical tables indicating the enrolment planning outputs for the DUT in the year 2008, as well as the results of the other five UoTs.

- ii) The results of research into the measures adopted by the DUT to achieve success.

Unit of Analysis Three presents the results of a telephone survey into the problem of dropouts at the institution.

8.2 Policy formulation: consultation with the DUT

A question often facing students of policy implementation is whether the goals of policy are clear. As indicated earlier, some of the conditions that are necessary for policy implementation, particularly in the top-down perspective are clarity and consistency of objectives, clarity on the policy levers that will bring about change, as well as the legal structuring of the implementation process to enhance compliance (Sabatier, 1986:22-25).

Chapter 2 presented the process of policy formulation through various pieces of legislation which were drawn up to steer HE institutions towards planned enrolments. In 2005, all public higher education institutions were presented with the Ministerial Statement on Enrolment Planning. While presented initially as a discussion document, concerns raised by the sector were noted by government, but policy was eventually “pushed through”, suggesting a predominantly “top-down” approach to policy formulation. The targets were affirmed in the 2007 Ministerial Statement on Enrolment Planning, a policy statement that can be regarded as the culmination of the legislative process that had commenced with the National Plan for Higher Education in 2001. Over and above the legislation, the consultative processes between the higher education branch of government and individual institutions were clearly evident to the researcher as also being “top-down” in approach. While the parameters of enrolments were “negotiated”, it was made clear that efficiency targets were to be raised (albeit marginally), and that there was to be very limited growth in student enrolments.

8.3 A quantitative presentation of the meeting of output targets of the enrolment plan by the DUT

8.3.1 Graduation rates at the DUT

The graduation rate at HE institutions refers to the number of graduates divided by the total student headcount enrolled in the same year, expressed as a percentage. Thus, if 4000 students graduate in a given year, and the institution's total enrolment is 20000, the graduation rate is 20%.

The overall improvement target is to increase the number of graduates from the 2005 total of 4278 to 4700 in 2010. As a percentage, the graduation rate has to increase from the 2005 figure of 19% to 21% in 2010. In attempting to assess DUT's progress towards the attainment of the above targets, comparative graduation rates per faculty from 2005 to 2007 are provided in Table 21:

TABLE 21: Graduation rate per faculty for 2005 to 2007 (Source: MI)

Faculty	2005			2006			2007		
	Head count	Graduates	Grad. Rate	Head count	Graduates	Grad. Rate	Head count	Graduates	Grad. Rate
Accounting and Informatics	5139	1271	25%	5441	1172	22%	5645	965	17%
Applied Sciences	1564	259	17%	1506	291	19%	1466	342	23%
Arts and Design	2385	417	17%	2549	481	19%	2717	515	19%
Engineering and the Built Environment	5634	679	12%	5265	794	15%	5143	742	14%
Health Sciences	1680	540	32%	1675	500	30%	1761	577	33%
Management Sciences	6106	1112	18%	6295	1154	18%	5970	1303	22%
Total	22 508	4278	19%	22 731	4392	19%	22 702	4 444	20%

NB: 2007 Graduate information as at 27th May 2008

The table shows that the overall number of graduates has grown steadily from 4278 to 4444 in 2007. The graduation rate which was 19% in 2005 and 2006 increased to 20% in 2007.

However, the graduation rates across faculties differ markedly in some instances, and also differ within faculties from year to year. The Faculty of Health Sciences enjoyed a consistently high graduation rate, ranging from 30%-33%, over a period of three years, whereas the Faculty of Engineering and the Built Environment produced a graduation rate of only 12% in 2005 which increased to 15% in 2006, but dropped to 14% in 2007. A marked decrease in the graduation rate in the Faculty of Accounting and Informatics is shown, from 25% in 2005 to 17% in 2007. On the other hand, the Faculty of Management Sciences showed a significant increase in the graduation rate, having achieved a 22% graduation rate in 2007, compared with 18% in 2005 and 2006.

The graduation rates within faculties i.e. per department and per programme were also examined. In the DUT's Faculty of Engineering and the Built Environment, consistent low graduation rates are evident, a clear example of the national problem of an insufficient number of graduates emerging from engineering disciplines. The poor results that entrants to tertiary education have in subjects such as Mathematics and Physical Science could be contributing factors to the overall poor performance.

The Faculty of Health Sciences, which has the highest overall graduation rate, also has significantly higher graduation rates for some of its programmes when compared to the graduation rates for programmes in other faculties. In 2007, the graduation rate for the National Diploma: Dental Technology was 42% and for the National Diploma: Radiography (Therapy) it was 46%. (Source: MI). The reasons for these variations and fluctuations from year to year between faculties and also between programmes within a specific faculty could be the focus of much institutional research at the DUT, which would assist with enrolment management. For example, do poor selection practices contribute to inefficiencies, or are there other factors such as the lack of academic preparedness of students or the problem of overcrowded lecture rooms for some programmes? Do the selection practices within the Faculty of Health Sciences (which

is known to be rigorous) contribute to higher graduation rates, or do smaller numbers in classes in this Faculty play a role in this? Have the learning interventions initiated by the Executive Dean of the Faculty of Management Sciences with the DUT's Centre for Higher Education Development (CHED), contributed to the improvement in the faculty's graduation rate? The following table, Table 22, indicates the DUT's graduation rates in relation to other UoTs.

TABLE 22: extract from Table on key graduation rates in public higher education institutions in 2008 (Source: DoHET, 2009).

Institution	Undergraduate Degrees & Diplomas (%)	Master's Degrees (%)	Doctoral Degrees (%)
Cape Peninsula University of Technology	24	9	12
Central University of Technology	23	14	9
Durban University of Technology	20	19	6
Tshwane University of Technology	19	11	9
Vaal University of Technology	18	9	7
Mangosuthu Technikon	14	0	0

The DUT's standing in relation to other UoTs shows that it is performing satisfactorily, and could, with the necessary interventions, achieve its target of 21% by 2010. The NPHE target of 25%, as shown in Chapter 2 however, is still a long way off. In numerical terms, DUT produced 4300 graduates in 2005, and its target is 4700 graduates. The actual number of graduates produced in 2008 is indicated in the following table, Table 23, which also indicates the graduates in relation to the major fields of study.

TABLE 23: extract from Table: Graduates/diplomats in public higher education institutions, by major field of study (Source: DoHET, 2009).

Institution	Major Field of Study				
	Science, Engineering & Technology	Business & Management	Education	All Other Humanities & Social Sciences	Total
Cape Peninsula University of Technology	2 974	2 462	699	843	6 977
Central University of Technology	931	914	319	361	2 525
Durban University of Technology	1 964	1 668	128	748	4 508
Tshwane University of Technology	3 869	3 235	993	1 954	10 051
Vaal University of Technology	1 270	1 474	2	231	2 977
Mangosuthu Technikon	510	620	0	150	1 280

8.3.2 Success rates

Table 24 (below) indicates the DUT's success rate in 2008, in relation to the other UoTs:

TABLE 24: Success rates of UoTs (contact students) in 2008 by race classification

Institution	Contact (%)				
	Black African	Coloured	Indian	White	Average
Cape Peninsula University of Technology	73	81	82	87	78
Central University of Technology	74	71	83	81	75
Durban University of Technology	77	76	78	85	77
Tshwane University of Technology	71	73	74	82	72
Vaal University of Technology	73	71	72	71	73
Mangosuthu Technikon	78	76	58	57	78

The target set for the DUT is to increase the success rate to 76% in 2010. An explanation of the significance of success rates needs to be mentioned at this stage.

The success rate at HE institutions refers to the total full-time equivalent (FTE) passed divided by the total FTE enrolled, expressed as a percentage. The statistics produced in respect of success rates are a broad indication of performance by institutions in respect of subjects passed overall. The DUT experienced a success rate of 74.53% in 2007 (MI, DUT), and as the above table shows, this increased to 77% in 2008, and is already above the 2010 target set in the enrolment plan. While this is indeed a positive development, it does not necessarily indicate a healthy throughput or graduation rate. Since a major factor is the FTE enrolled, a high dropout rate clouds the matter of judging performance from success rates alone. The national enrolment planning targets indicated that institutions ought to collectively achieve an average success rate of 73% by course in 2010. Nearly all of the UoTs have already attained this target, yet the matter of graduate outputs, as well as the issue of high dropouts still affects the sector. This further indicates that success rates alone ought not to be regarded as an indication of performance by higher education institutions. An analysis of success rates at an institution is valuable, however, as it could direct one to problematic areas within the academic programme as a whole. The DUT has agreed that the Executive Committee of its Senate (Senex) will review such statistics on an annual basis for this purpose. In assessing DUT's attainment of success indicators, the throughput rate and the extent of its dropout rate provides a deeper understanding of the abovementioned achievements.

8.3.3 Throughput and dropout rates

Table 25 (below) depicts the progress of first time entering, 3-year National Diploma students that had registered for the first time in 2005, within each of the six faculties. The table shows how many of these students had graduated in 2007 in the minimum time of three years, how many students had dropped out of studies and how many of

these students had re-enrolled in 2008. A cohort study such as this is useful for an assessment of how an institution performs in the meeting of key indicators of the student enrolment plans.

TABLE 25: Cohort study of first-time entering students for 2005 (Source: MI)

Qualification	First-time entering in 2005	Number graduated in 2007	Enrolled in 2008	Number of dropouts	Dropout rate	Throughput rate
Faculty of Accounting and Informatics	680	147	218	315	46.32%	21.62%
Faculty of Applied Sciences	466	137	108	221	47.42%	29.40%
Faculty of Arts and Design	580	241	108	231	39.83%	41.55%
Faculty of Engineering and the Built Environment	1337	88	527	722	54.00%	6.58%
Faculty of Health Sciences	333	130	95	108	32.43%	39.04%
Faculty of Management Sciences	1684	456	423	805	47.80%	27.08%

As is shown in Table 25 (above), throughput rates varied amongst the different faculties. The Faculty of Engineering and the Built Environment shows that an alarmingly low percentage (6.58%) graduated in the minimum time. The faculty also had the highest dropout rate of 54%. The institution has an overall throughput rate of 23.60%, and a dropout rate of 47.28%.

8.4 A qualitative insight into implementation at the DUT

The preceding quantitative presentation of the DUT's performance in respect of the output indicators is useful, in that it depicts the institution's performance relative to enrolment planning goals. It would be short-sighted, however, to take comfort from the attainment of those indicators, especially considering the matter of throughput and dropout rates, as discussed. Institutions such as the DUT ought to be continually striving to improve its graduation and throughput rates, through the implementation of interventionist strategies aimed at these areas.

The following are the results of a qualitative inquiry into some of the ways in which the DUT is engaging with these issues.

8.4.1 Strategies by academic leadership

The role of leadership within South African higher education institutions is of paramount importance to the development of educational strategies that will improve graduate output. An acute awareness by the leadership of the challenges facing underprepared students in the lecture rooms is vital. In this regard, a report by the CHE (2007:41) makes the observation that “mainstream higher education programmes generally treat the student intake as homogenous in that, once admitted, all students are exposed to the same educational process”. The report adds that diversity in the student profile, particularly in respect of inequalities in educational background, “challenges the validity of traditional, unitary educational processes” (CHE, 2007:41). The development of teaching and learning strategies within institutions, the devolving of accountability to academic units, and the tracking and monitoring of student performance can play a major role in the meeting of desired educational outcomes (CHE, 2007:67).

At the DUT, the VC, who was appointed in the latter part of 2007, has been persistent in highlighting the need to improve the quality of teaching and learning, graduation and success rates and the qualifications of academic staff. In regular newsletters to staff, as well as at meetings with various sectors of the institution, the VC has effectively placed the institution on “high-alert” in respect of these performance outcomes. For example, key issues in the VC’s report to the Senate at its meeting on 28 May 2008 identified the following as priorities for the DUT:

- Improving the quality of teaching and learning
- Improving success rates
- Improving graduation rates
- Increasing research outputs

- Increasing the cohort of researchers
- Increasing research income
- Improving the qualifications of staff

Following the above Senate meeting, the VC arranged an off-campus workshop over the weekend of 6-7 June 2008, with Executive Deans and certain support staff members to develop strategies for the goals identified by the institution. The researcher attended this workshop, as a representative of the support staff. As part of the workshop, Executive Deans were requested to make individual presentations on initiatives that were in progress within faculties, as well as to identify new plans to improve educational performance. The workshop identified the following interventions that were currently in place in one or more faculties, or were being initiated within the institution:

- Structured tutorial programmes
- Identification of at-risk students
- Remedial teaching
- Use of e-learning. In this regard, it is of significance that many staff members are undergoing e-learning training
- Tracking of student performance
- Increased support to students taking extended programmes
- Recurriculation and modularisation of subjects
- Review of selection practices
- Review of re-admission and promotion criteria within certain faculties, where necessary
- Ongoing teacher evaluation
- Re-organisation of time-tables for more individual study time
- Identification and development of niche areas

Another intervention at the DUT is that the Executive Committee of Senate took a decision at its meeting on 20 October 2008, requesting Executive Deans to present an annual review of the academic performance of students within their faculties to the DVC (Academic). The DVC (Academic) will then present a summary report of the reviews to Senex for discussion. The researcher's observation of these developments is that they have created a general awareness amongst the staff in the academic sector of the imperatives for greater student success.

8.4.2 Academic development: the role played by the Centre for Higher Education Development (CHED)

The matter of "academic development" as an intervention at universities, incorporating staff development, curriculum design and student development is being given attention at the DUT through its Centre for Higher Education Development (CHED). An interview conducted by the researcher with the then Acting Director CHED and the Project Coordinator: Access and Placement Testing within CHED, revealed that there is currently a growing usage by academic departments of the Standardised Assessment Tests for Access and Placements (SATAP) for the purposes of student selection, placement of students within extended programmes, as well as for making diagnostic analyses of students for the purposes of identifying interventions. The Project Coordinator (2008) stated that

"SATAP testing has grown in recent years from simply looking at points or scores achieved for a test to now being able to generate reports on strengths and weaknesses in literacy areas... by this, I mean language, scientific and mathematical literacy. This is how we are trying to inform and influence foundation programmes at a selection level and further at a curriculum level, for example, materials design".

When asked about the impact of such interventions within academic departments, the Acting Director: CHED (2008) reported that *"We have challenged academic departments to take ownership of the problem (of under preparedness of learners)... this comes down to staff taking responsibility for dealing with problems encountered*

in the classroom...” The Project Coordinator (2008) added “*we have held workshops to explain to departments how to make use of the diagnostic reports generated through SATAP testing, but we haven’t had much success with many departments*”. According to her, the reason for not all departments making use of diagnostic analyses of learner problems is primarily due to the fact that “*... staff have problems finding the time to analyse these reports and to take note and heed the suggestions made... staff are really cramped for time....*” (Project Coordinator: 2008).

The Acting Director: CHED also advised that training of tutors who are appointed from the ranks of senior students for supplemental instruction is a priority issue for her Department. The importance of training tutors is an important intervention, according to the Acting Director: CHED, who stated that

“from a sustainability point of view in dealing with interventions in the classroom, we work with staff who are able to influence hundreds of students... it is economical to work with tutors, explain to them the difficulties that learners have, so that they can have an impact in the classroom...” (Acting Director, CHED: 2008).

An interesting observation made by the Project Coordinator on the matter of poor performance by many students (from her experience in working with students), was that,

“In recent times, I have noticed that many students simply do not take responsibility for their learning. They appear to not show commitment to studies... I am concerned that the academic culture... the motivation, seems to be lacking...” (Project Coordinator: 2008).

In discussing the matter further, both the CHED staff members advanced the view that the language of instruction, English, was a major problem for many learners for whom English was their second or even third language of communication, and this served to demotivate them in the classroom. As the Acting Director: CHED (2008) remarked,

“Can you imagine the number of processes going on in their minds... when the lecturer rambles on in the classroom, many students try to translate what the isiZulu equivalent for a particular word is... they do this to make learning

meaningful... this even goes on in the examinations, and students then find they did not have sufficient time to answer the question paper”.

8.4.3 Practices by academic departments: the results of a survey

The structured questionnaire completed by academic heads of departments referred to in Chapter 6 was used with the intention of establishing whether there was a convergence of evidence (Yin, 2009:117) in respect of the DUT’s practices within departments that are geared towards improving student success. Using the Likert –type rating scale, the heads of departments completed two sections of the questionnaire that were related to academic interventions used to improve student success. These two sections can be broadly categorised as follows:

- i) Prioritisation of student performance within departments
- ii) Attitudes to specific interventions that are designed to improve student success

The responses of heads of departments to a third section, namely, the specific interventions used by departments were also included in the survey, and heads were asked to select those interventions that were used by their department.

8.4.3.1 Prioritisation of student performance within departments

The rating scale was completed in respect of the following variables:

- Improving the graduation rate is an important priority for my department
- My department is involved in interventions to improve student performance
- Lecturers generally do not have sufficient time to give attention to the analysing of performance of students that they teach
- The expectations of government to improve performance of students as indicated in enrolment planning targets are unrealistic
- There is very little that individual departments can do to minimise dropouts from academic programmes.

The results indicated that generally, there is a strong commitment within academic departments to improve student success, as indicated by the following:

- 25 of the 36 departments (69, 4%) *strongly agreed* that improving the graduation rate was an important priority, and a further 25% *agreed* with the assertion;
- 21 heads of departments (58, 3%) *strongly agreed* that the department was involved with interventions to improve student performance, and a further 30, 6% *agreed* that there were interventions within the department.
- 44.4% *disagreed* with the assertion that departments can do little to minimise dropouts. 22, 2 % *agreed* with the assertion, and 16, 7% *strongly agreed* with this.
- 13 of the respondents (36, 1%) *disagreed* with the assertion that lecturers generally did not have sufficient time to analyse performance of their students, however, 25% and 30, 6% *strongly agreed* and *agreed* respectively with this assertion.

An element of pessimism regarding the enrolment planning targets was apparent from the results, since only 16,7% disagreed with the statement that government's expectations regarding the enrolment planning targets were unrealistic. 36, 1% *agreed* with the statement, while 19, 4 *strongly agreed*.

8.4.3.2 Attitudes of heads of departments to specific interventions

Ratings of the attitudes of heads of department to the effectiveness of the following interventions were requested in the survey:

i) Use of student tutors

The evidence of the Acting Director of CHED, as provided in the findings from the interview earlier, was corroborated, since this was one of the most highly rated forms of intervention. 41, 7% *strongly agreed* that this intervention improved student success, while a further 41, 7% *agreed*.

ii) Curriculum reviews

19, 4% *strongly agreed* with the effectiveness of curriculum reviews; 41, 7% *agreed*; 19, 4% were *undecided*; 16, 7% *disagreed* and 2, 8% *strongly disagreed*. The results indicate that curriculum reviews were highly regarded as a form of intervention by the head of departments.

iii) Student feedback

This was also one of the highly rated forms of intervention by heads of departments. 33, 3% *strongly agreed* with the effectiveness of student feedback, and 50% of the respondents *agreed*.

iv) Staff evaluation

16, 7 % of respondents *strongly agreed* with staff evaluation being an effective form of intervention, and a further 50% *agreed*. 19, 4 of the respondents *disagreed*, and 5, 6% *strongly disagreed*.

v) E-learning

There was a significant percentage (33, 3%) of the respondents that were *undecided* about the effectiveness of e-learning as an intervention. A further 19, 4 *disagreed* with its effectiveness. This can possibly be attributed to the fact that the introduction of e-learning to the institution as a whole is still in its infancy. 33, 3 % of the respondents *agreed*, however, that this was an effective form of intervention.

vi) Foundation programmes

The effectiveness of foundation programmes was rated highly by the heads of departments. 27, 8% *strongly agreed* that this was effective, while a further 36, 1% *agreed* on the effectiveness of foundation programmes. 16, 7 % were *undecided*.

vii) Tracking performance of students from test/exam scores

27, 8% *strongly agreed* that the tracking of students' performance was an effective way of improving success, and a further 50% *agreed*. There were, however, 13, 9% who were *undecided*.

vii) Mentoring programmes

33, 3% of respondents *strongly agreed* that mentoring programmes was effective, and a further 50% indicated that they *agreed*.

viii) Staff development

The aspect of staff development as a vehicle to improve the performance of students was highly rated. 25% of response *strongly agreed* on the effectiveness of staff development, and a further 41, 1 *agreed*. 22, 2 % of respondents did not respond to the question.

8.4.3.3 The interventions used by departments

A listing of the interventions mentioned above was provided to heads of departments in the survey. The heads were requested to denote the actual interventions that were used. The results indicate that the following interventions are used, and these are placed in ranking order:

1. Student feedback (91, 7%)
2. Tracking performance of students from tests/examinations scores (77, 8%)
3. Curriculum reviews (72, 2%)
4. Supplemental instruction (for example, use of student tutors) (63, 9%)
5. Staff evaluation (61, 1%)
6. Foundation programmes (33, 3%)
7. E-learning (30, 6%)
8. Mentoring programmes (27, 8%)
9. Other interventions (5, 6%)
10. No interventions (2, 8%)

8.4.3.4 Additional comments

Some of the pertinent comments made in respect of academic interventions are:

- The value of e-learning has been clearly demonstrated in our department
- Our students and their circumstances vary so much that it is hard to generalise about what works or not
- Smaller classes would assist in student success

The findings above indicate quite clearly that there is an awareness of the popular forms of interventions used at higher education institutions. As indicated previously, these interventions were identified at a workshop by Executive Deans as strategies that would be employed within their faculties. The findings of this survey indicate quite clearly that such interventions are actually in practice.

8.5 The problem of dropouts at the DUT: the results of a telephone survey

In the cohort study of first-time entering undergraduate DUT students (see Table 25), only 1199 students of the 5080 students graduated in 2007, with 1479 re-enrolling in 2008. Thus, 2402 of the cohort had seemingly dropped out of studies, giving the DUT a dropout rate of 47.28%. The impact of high dropouts on the throughput rate is significant; a throughput rate of 23.60% cannot be considered as encouraging, from an enrolment management perspective.

The data shows that the dropout rate is unacceptably high in all faculties, but particularly so in the programmes in the Faculty of Engineering and the Built Environment, a targeted area for growth and development in the national context. The lowest dropout rate is in the Faculty of Health Sciences (32.43%), which also has the lowest intake of first time entering students. The links between the smaller numbers and performance was not a focus of this study, but is worth examining from a research point of view. The practices within individual faculties which may or may not have

contributed to the variations in performance was also not an objective of the study, but is worth pursuing from a research perspective.

A major challenge for the development of retention programmes or even grasping a basic understanding of dropout behaviour at the DUT is that important information which could assist with retention research is not included in student records and institutional data. The researcher's experience in attempting to understand the scope of the retention problem at the DUT revealed that nearly all of the students who leave do not follow formal procedures for de-registration, and their departure from the institution is only known from their absence in final examinations, and from the registration records of the following year, when these students are formally recognised as dropouts. The actual reason for the dropping out is rarely reported to the institution. This explains why the researcher's attempts to obtain information such as the following were not wholly successful:

- Why do students leave?
- Do dropouts leave voluntarily for reasons such as finding an alternate activity such as employment, disenchantment with the DUT or any other reason?
- Do they primarily belong to the category of forced exclusions, where poor academic performance and/or inability to afford a higher education are the primary causes?
- At what point in the study cycle do students drop out? Indeed, much research has been done into the development of intervention programmes based on identified points of student departure; however the absence of such information at the DUT inhibited the researcher's undertaking a similar investigation.

An important motivation for conducting the telephone survey, was that apart from the importance of information such as the above, the researcher was of the view that it would be of wider interest to establish the activities of dropouts once they leave a

higher education institution. Are these former students employed, unemployed or do they leave to study elsewhere?

Of specific interest to the DUT would be to establish whether students who leave can be categorised as stopouts (students who exit the system but later re-enter) or permanent dropouts. If stopouts do plan to return to study at a later stage, would they return to the DUT to complete their studies, or would they choose an alternate institution? Why not the DUT, if another institution was preferred? These questions, which were provided in more detail in Chapter Six, formed the basis of the telephone survey with dropout students. The results follow.

8.5.1 Results of the telephone survey of dropouts

8.5.1.1 The reasons for students dropping out of studies

From the responses, the following categories of reasons for students dropping out of studies were determined:

Financial problems

52% (287 of the 551 respondents) cited financial problems as the reason for dropping out. Nearly all of the respondents had arrear fees, preventing them from re-registering.

Obtained employment

16.7% (92 respondents) left in order to take up employment. This group cannot be fully separated from the group with financial problems, since many took up employment because of dire financial circumstances at home. This was established from additional notes recorded when respondents explained why they had to seek work. Because of this, it would also be difficult to loosely categorise this group as “voluntary” dropouts as typically indicated in similar research conducted in western countries, since dropping out from HE to take up employment appears to be more often out of financial necessity in the South African context. The researcher was also

made aware, through discussions with academic staff (especially in the Sciences and Engineering fields) that job offers are made by employers to a number of students in their second or third year of studies, often while students are undergoing work-integrated learning with employers, and that these offers are sometimes taken up by students, who found little motivation in completing a qualification. This is particularly true of programmes in the Department of Maritime Studies. Since ascertaining the extent of these voluntary departures was not a specific objective of the survey, the validity of these accounts was not established.

Academic exclusions

Academic exclusions accounted for 16% (88 respondents) of dropouts. This category of students was invited to individual and focus group interviews. A description of the accounts of the students who participated is provided later.

Family and personal problems

Respondents in this group (8.5%) simply indicated family or personal problems as their reason for discontinuation of studies. In most instances there was a reluctance to elaborate on this. Individual invitations to members of this group to attend a focus group interview were not accepted by these respondents.

Doing work-integrated learning

Twenty-four respondents (4.4%) indicated that they were not dropouts or stopouts; they were engaged in work-integrated learning, which is a compulsory part of the curriculum in many programmes at the DUT where students are employed in a training capacity by organizations in order to obtain work experience. The significance of these responses from a planning perspective at the DUT is that there are a number of students who may be incorrectly categorised as dropouts simply because of inefficiencies in internal processes to ensure that students that are engaged in work-integrated learning are formally registered as DUT students. The implications of this

category of students not being formally registered but engaged in training in the name of the DUT needs to be examined.

Taking a break

Ten respondents (1.8%) can be regarded as voluntary stopouts since they indicated that they were simply taking a break from studies, but would return.

Not happy with the DUT

3 students (0.5%) indicated they were not satisfied with the DUT. Only one of these elaborated on this, citing displeasure at the physical condition of the campus.

8.5.1.2 The present activity of dropouts

The majority of dropouts (43.7%) indicated that they were unemployed, 39% stated that they were employed, and 13.1% indicated that their main activity was studying elsewhere. A category of students engaged in studying whilst being employed was also identified.

Students studying elsewhere

Of the 13.1% whose primary activity was studying elsewhere, the majority was studying through the distance education provider, UNISA. Of these students, the main reason for studying elsewhere was that they had relocated; another significant reason was that they had been forced to leave the DUT, either through student debt or academic exclusions. Only two of the respondents indicated that they were studying elsewhere because they were unhappy with the DUT. Other reasons were largely linked to the issue of finances and not qualifying for financial aid.

Temporary or permanent discontinuation of studies

Of the 370 students (67.2%) who expressed the desire to continue studying at a later stage, 18% were uncertain, and only 1.6% indicated that they had stopped studying altogether. 13.2% did not want to answer the question. Of the students who intended to

study at a later stage, 57.4% wished to study in the following year (2009), others were either unsure or indicated that they would study when finances became available. The preferred choice of institution for students returning to studies was the DUT, followed by UNISA, which was preferred by those not choosing to return to the DUT as, in most instances, a distance education provider was required.

Cross tabulation of the reason of financial problems for dropping out of studies with the desire to study at a later stage showed:

- 45.6% of those who dropped out as a result of financial problems wished to pursue studies at a later stage.
- 36.8% wished to continue with studies next year.
- 43% would prefer to re-enrol for the same programme where they were last registered.
- 44% would prefer to return to the DUT.
- 51.5% were not studying elsewhere.

8.5.1.3 The link between financial and academic exclusions

To gather more detailed explanations from dropouts, respondents that were contacted in the telephonic survey were asked if they were willing to be interviewed about why they dropped out. Four individual interviews and two focus group interviews were held, with three participants in each of the focus groups.

From interviews with students who were excluded on poor academic performance, it was evident that financial difficulties were a major contributing factor for their poor performance. In one focus-group interview with three students who had been academically excluded, strong similarities were evident in their accounts of the hardships in coping with their academic work while faced with severe resource limitations. The following are excerpts from the responses of three interviewees when asked to speak freely about why they had not coped with their studies:

Respondent 1: *After 2 years of study, I had only passed 4 out of 10 subjects. It was not that I did not try.... I live with my grandmother who is a pensioner. After I was refused financial aid, I had to borrow textbooks from my friend to study. When I wrote tests I had to look at my notes, while my friends had textbooks to study... I don't know what I am going to do now; studying was our only hope...*

Respondent 2: *In my second year it was difficult because I had to work at Wimpy at night, and walk to my flat (in town) from the Point. Then I had to study... it was difficult to study IT without a PC, without the JAVA program because I had to study at night. I failed after passing all my subjects in first year.... and then I was not given NSFAS loan. I knew then I must forget about studying...*

Respondent 3: *In 2005, I was self-paying... my father had good job, but then he lost it. Because I did not apply for financial aid, I did not get it in second year. I tried to look for job... worked at Truworths as casual on weekends at R13.60 an hour. I love Journalism, but found it difficult in the examination. I wish to be given a chance to study again... I still want to be a Journalist....*

All of the focus-group and individual interviews reflected very similar difficulties faced by students in their attempts to balance studies with other responsibilities. In some cases, the experiences that were shared reflected personal tragedies. In all of the interviews, the desire to return to studies was very strong with respondents, obviously motivated by seeing higher education as the only means to escape their dire financial circumstances. For those who did not have the finances to study further, and had been excluded purely on financial and not academic grounds, it was evident that their return to studies could only be made possible by changed personal circumstances such as the ability to pay.

8.6 Summary

This chapter presented the findings for the specific areas of research conducted for Units of Analysis Two and Three. The findings for the research questions for these units of analyses have emerged from a number of different methods of data collection. A brief summary of the findings are presented in the following sections. It is intended that more detailed discussions and conclusions will be presented in the final chapter.

8.6.1 The meeting of the output indicators

The quantitative presentation of statistical tables was obtained from:

- The Department of Higher Education and Training (DoHET). These related to the audited 2008 statistics of the output indicators of graduation rates and success rates.
- Data from the DUT's Management Information (MI) division, which related to throughput and dropout rates, from a cohort study of DUT students.

Data from the above tables addressed the first research question for unit of analysis2, viz. *How is the DUT poised to meet the output targets of the enrolment plan viz. The success rates, graduation rates and throughput rates?*

The results indicate that the DUT is well poised to meet the targets by 2010. It is performing satisfactorily in respect of the targets when compared with the performance of other UoTs. Of concern, however, is that graduation rates of programmes differ markedly across faculties, and within faculties. In the Faculty of Engineering and the Built Environment only 6, 58% of students graduated in the minimum time. The faculty also had the highest dropout rate. Such findings indicate that while the targets, as set by the DoHET appear to be met by the DUT, there are gross inefficiencies being experienced in some programmes in certain faculties.

8.6.2 The interventions used at the DUT

The chapter presented findings for the research question : *How is enrolment planning being effected at the DUT? Specifically, what are the processes, mechanisms and structures used to coordinate the planning and implementation of the policy, and how effective are they?* which were obtained through:

- Participant observation
- Interviews with key personnel
- A survey of heads of departments

The findings reveal firstly, that there is a strong awareness of the challenges that need to be met in order to meet the goals of increased graduate output, and secondly, that there are indeed strategies that are being implemented within departments. There is no evidence of a coordinated approach to such interventions, however.

8.6.3 The problem of dropouts

The chapter addressed the following questions to address the issue of dropouts:

- *Why do students leave the University prematurely?*
- *What are the present activities of students who have dropped out of studies from the DUT?*
- *Do the dropout students wish to return to the DUT to continue with their studies?*

The findings for this unit of analysis were obtained from:

- Data obtained from the Management Information department at the DUT
- A telephone survey of dropouts
- Institutional records
- Interviews and focus group interviews

The findings indicate that the primary cause of the premature departure of students from the DUT was financial problems. Financial problems also accounted for poor performance, when students were academically excluded.

The majority of dropouts (43, 7%) were unemployed, 39% were employed and 13, 1% was studying elsewhere. A large number of students wished to return to studies at a later stage.

CHAPTER NINE

CONCLUSION AND RECOMMENDATIONS

9.1 Overview of study

The study set out to provide a critical analysis of:

- i) The performance by the Durban University of Technology in very specific performance indicators as determined by policy on student enrolment planning, and
- ii) The measures adopted by the institution to give effect to the policy.

The study, conducted within three units of analysis, sought to answer specific questions relating to key areas that impact on enrolment planning. The central proposition of the research study was that the successful meeting of enrolment planning targets could be enhanced by the institution having an effective institutional planning and coordinating framework, as well as related strategies for the achievement of these targets. Multiple methods of data collection were used within the units of analysis in order to elicit convergence of evidence. The findings have led to very specific conclusions about the implementation of enrolment planning at the DUT.

This chapter concludes the research study by a presentation of:

- A summary of the study's procedures and results.
- Conclusions arrived at from the research.
- Recommendations for student enrolment planning at the Durban University of Technology (DUT).
- A summary of the contributions made this study.
- Suggestions for further research.

The summary of procedures, results and conclusions are dealt with separately within the context of each of the units of analyses. Thereafter, a summary of contributions of the study as a whole and suggestions for further research are made.

9.2 Summary of findings of Unit of Analysis One

The first unit of analysis entailed an examination of the status of the DUT in the year 2008 in respect of the quantitative input targets of the enrolment plan, as well as a study of the student recruitment, marketing and selection processes used to achieve the input indicators of the student enrolment plan. The study sought to answer the following questions:

- *How is the DUT poised to meet the input indicators of the enrolment plan by the year 2010?*
- *How effectively does the Central Applications Office (CAO) deal with applications made to the DUT by prospective students?*
- *How effective are the DUT's student selection processes?*
- *How effective are the marketing and recruitment strategies used by the DUT to attract the required number of students at first year level that meet and exceed entry requirements?*

9.2.1 The meeting of enrolment planning targets

An analysis of official tables provided by the DoHET regarding the meeting of the input indicators of the enrolment plan by UoTs was undertaken. In respect of headcount targets, the tables indicate that the DUT is poised to meet these targets. The University also appears to be on track to meet the targets for enrolment shapes by major field of studies and qualification types.

A cause for concern, however, is the trend towards lower FTE enrolments, as this trend points to an increasing number of failures. A further concern is *how* these

enrolment targets were met, since the registrations of students occurred in an uncoordinated, unplanned manner in 2008.

9.2.2 The handling of student applications by the CAO

The research findings indicate that the Central Applications Office, which is commissioned by the DUT to deal with its applications, performs its functions efficiently. In this regard, the survey of first year students indicated that most students apply through the CAO, and that the CAO is effective in notifying applicants about their application statuses.

9.2.3 The student selection practices at the DUT

A survey of first year students revealed:

- That their applications for admission to the DUT had been made well in advance.
- The DUT does not respond to these applications in a uniform manner, as the use of pre-selections for admission is not a university-wide practice.

The researcher's observation of selection practices at the DUT is that there are a number of inefficiencies. One of these is that a large number of applicants are notified rather late that they have been offered places. In some instances, these offers are only made when students query their applications at the time of registration. Another practice within some departments is to ignore unsuccessful or non-qualifying applicants. This failure to communicate with unsuccessful applicants is unfair, as their options of applying elsewhere or seeking employment may be compromised.

Such observations indicate that the processes for student selections within a number of departments at the DUT are uncoordinated and there is clearly much room for improvement. Evidence from the observations was corroborated by interviews with applicants who arrived at the university at the time of student registration seeking clarity on their application statuses.

Further converging evidence was obtained from the questionnaires completed by heads of departments. The questionnaire results revealed that:

- Heads of departments do not view the use of the CAO as an effective way to make selection decisions.
- There is a reluctance to make pre-selections on Grade 11 or trial results.

9.2.4 Marketing and student recruitment practices at the DUT

From an enrolment planning point of view, the primary purpose of marketing and student recruitment is to attract a suitable pool of qualifying applicants. This purpose is not being achieved for all programmes despite the fact that the institution receives applications that are well in excess of its enrolment planning targets. Of major concern is the applicant pool, which indicates that a large number of applicants do not meet admission requirements, especially for the “first choice” programmes. An analysis of the applicant pool further revealed that a large number of applications are concentrated in 10 high-demand programmes, while some programmes experience difficulties in attracting a suitable applicant pool.

Data provided from the survey of academic heads converged with the above findings.

The survey results revealed that:

- While a large number of heads felt that their programmes attract a sufficient number of applicants, a significant number (38, 9% of respondents) indicated that their programmes do not attract sufficient numbers.
- The majority of departmental heads (approximately 53%) stated that the quality of applicants to their programmes was generally not good.

9.3 Discussion of results and conclusions for Unit of Analysis One

9.3.1 The meeting of enrolment targets

A conclusion that can be reached with the meeting of input targets is:

While the DUT does not appear to be having a problem with the meeting of headcount enrolment targets, the quality of students that are admitted is poor.

While it is acknowledged that the poor quality of the passes of school leavers is a national concern, and an issue that the DUT has little control over, the findings on student selection practices reveal that the institution is not exerting itself to ensure that the students it admits are the “best” available. The analysis of applications reveals quite clearly that the DUT is not attracting a large pool of qualifying applicants. Further evidence of the poor quality of students is the trend towards lower FTE enrolments, explained earlier. The high dropout rate is a further indication that amongst these dropouts are students who are admitted, but cannot cope with the demands of higher education.

Thus, of more importance than the meeting of headcount targets is the recruitment and selection of students that show more than adequate potential to succeed. That the DUT experiences little difficulty in meeting headcount enrolment planning targets each year has to be viewed in the context of differential entry requirements to UoTs and traditional universities. For the DUT, as with all UoTs, the challenge of attracting applicants that meet entry requirements is not as great as the traditional universities, which offer primarily degree studies and have higher entrance requirements.

9.3.2 Effectiveness of the student selection process

The conclusion that can be arrived at in respect of the student selection process is:

There are serious inefficiencies in the student selection process, which warrants urgent attention.

These inefficiencies have been clearly demonstrated by converging sources of evidence. Such converging evidence has revealed that even after prospective students obtain their school-leaving results, and have made their applications well in advance to study at the DUT, there is scant regard for these applications by many academic departments. The disregard for the applications occurs despite the fact that a

sophisticated application system, the CAO, is in place for public higher education institutions in the province.

The survey of HODs and the interviews with first year students indicate that the reluctance by academic departments to track applicants and follow up on “quality” applicants may compromise the DUT’s goal of admitting students who persevere until graduation. There is a risk that the reputation of the DUT in the eyes of the community may be compromised by ignoring applications made by hopeful prospective students. The need to ensure that selection issues are treated seriously should be apparent from the quality of students that are admitted. The literature review on student selection demonstrated very clearly that there is a need to optimise selection decisions, particularly in the South African context, where the under preparedness of school leavers is widely acknowledged. Of critical significance is that the issues of access and selection are very closely linked to issues of retention and success.

The careful selection of students could go a long way towards achieving the goals of student-institution fit. The literature on student integration indicates that where student-institution fit is not present, social and academic integration of students is threatened, which could impact on enrolment stability. The haphazard student selection procedures at the DUT could be a major contributing factor to the low throughput and high dropout rates.

9.3.4 Marketing and student recruitment

The conclusions that can be reached in respect of the marketing and student recruitment efforts are:

- 1. The manner in which the marketing initiative at the DUT is coordinated demonstrates the “frail organisational framework” referred to by Maringe (2005:574).*
- 2. Marketing and student recruitment at the DUT is located at the operational rather than at the strategic level.*

3. Marketing and student recruitment are not informed by research.

It is highly likely that the weak organisational framework is a result of the institution not having adopted a strategic model (such as the CORD model) for marketing. The lack of such a model could account for weaknesses in marketing and student recruitment practices. For example, the interview with the Executive Director revealed little evidence that a coordinated approach to marketing is being used. Practices such as the contextualising exercise and researching the customer interface, which are inherent features of the CORD model, are not evident at the DUT. Such practices ensure that the goals of enrolment planning are part of the marketing strategy. A contextualising exercise at the DUT would serve to address issues such as conflicting public perceptions about what a university of technology is, and the positioning of the DUT within the overall higher education landscape.

Reflecting on the broad purposes of development, as the CORD model suggests, would address the DUT's need to attract more students with good passes in gateway subjects, a factor that impacts on the performance in certain key fields such as Engineering. An indication that marketing is located at the operational rather than strategic level was the finding that key marketing and recruitment personnel were not aware of the targets of the enrolment plan. The lack of a strategic thrust for the marketing and student recruitment initiatives, as propagated by the CORD model, is clearly a weakness, from the observations of the researcher.

The fact that marketing at the DUT is not informed by research poses a problem. The advantages of institutional research providing the necessary organisational intelligence for the marketing process has already been outlined in the literature review. Such research could, for example, assist in improving the communications aspect of marketing by identifying subgroups in the DUT's target market. For instance, if it were verified (as claimed in the study by Bonnema and van der Waldt referred to earlier) that certain subgroups have a bias against UoTs, and would prefer to study at a

traditional university, then the DUTs marketing messages will have to be tailored so as to begin changing that mindset.

Researching the customer interface could assist the DUT in making its recruitment drives more economical. A significant amount of funds are spent each year by the DUT on media advertisements and such research could guide expenditure more strategically. An example of this can be seen in the importance attached to the DUT's annual careers fair by academic staff. It is noteworthy that the survey of first year students had revealed that only 19, 1% of them had attended the DUT's career fair, indicating that most of the students registered at the DUT were not influenced by this expensive and time-consuming marketing event. Yet, from the survey of heads of departments, approximately 60% of respondents were under the impression that the career fair is an important recruitment initiative. Erroneous impressions such as this can be corrected by the dissemination of institutional research to key role players. Researching the customer interface as an approach to marketing could ensure that issues such as the dropout problem at the DUT become a part of the marketing strategy. Research could identify issues that impact on the goal of attracting quality students and enable the institution to take steps to address such matters.

9.4 Summary of findings for Unit of Analysis Two

The second unit of analysis included firstly, an examination of the DUT's locus on its trajectory towards achieving the output (success) indicators of the enrolment plan. The second part of the study within this unit of analysis dealt with the interventions and processes used at the DUT to achieve these output indicators.

The study sought to answer the following questions:

- *How is the DUT positioned to meet the output targets of the enrolment plan viz. the success rates, graduation rates and throughput rates?*

- *How is enrolment planning being effected at the DUT? Specifically, what are the processes, mechanisms and structures used to coordinate the planning and implementation of the policy, and how effective are they?*

9.4.1 The meeting of output targets

To address the question of how the DUT is positioned to meet the output indicators of the enrolment plan, a quantitative presentation of the DUT's performance in relation to the other UoTs in the country was examined. The findings indicate that the institution will meet the targets of the enrolment plan. Considering the data presented in respect of the other UoTs, it could be inferred that the DUT is performing satisfactorily.

9.4.2 Implementation of policy: measures taken to improve success

The second part of the findings in the second unit of analysis relates to the specific implementation measures being undertaken at the DUT. The evidence suggests that there are reasonable efforts within parts of the institution to improve success. The findings reveal that the academic leadership of the institution (Executive Deans and Executive Management) have prioritised the matter of academic interventions that could contribute to the meeting of the success indicators.

The findings were corroborated by converging evidence obtained from separate methods of data collection. Firstly, the interviews with Executive Deans and personnel from CHED provided an overview of the interventions within departments. The use of student tutors was an important initiative, according to the Acting Director (CHED). Secondly, the survey of academic heads of department indicated a high level of awareness of the challenges entailed in improving success, and more importantly, that there are specific measures being taken within the institution to improve performance. The assessment of these interventions was also made through the lens of the researcher by observation and participant observation.

9.5 Discussion of results and conclusions for Unit of Analysis Two

9.5.1 Meeting of output targets

A conclusion that can be reached is:

The DUT is well-positioned to meet the output indicators of the enrolment plan.

With regard to graduation rates, the DUT is on track to produce the requisite number of graduates as required by the enrolment plan. The DUT is already ahead of its target in respect of success rates.

In critically assessing the above performance, however, the targets set by the enrolment plan were modest ones, as has been pointed out, and the sector as a whole is a long way off from achieving the expectations of the National Plan for Higher Education. A more accurate understanding of DUT's performance is what the results reveal about the throughput rates, especially in areas targeted as national priorities. In this context, these results are indicative of problems that plague the sector as a whole and cannot therefore be regarded as acceptable in the long term.

The literature review revealed that a major challenge for national development in South Africa is the relatively low number of Black African graduates being produced by the sector. Further, the number of these graduates in the fields of study in Science, Engineering and Technology is generally low in the country. Since the DUT has a predominantly Black African student population, it can be inferred that it makes a meaningful contribution by the provision of Black African graduates. However, taking the low throughput rate and graduation rates in many Engineering programmes, this contribution is marginal at this stage.

What are not shown by the DUT's achievement in respect of the output indicators of the enrolment plan are the throughput and retention rates of the various programmes. The achievements also do not indicate the wide disparities within the institution in respect of graduation rates. The meeting of headcount enrolment targets in respect of

broad fields of study as indicated in Tables 13 and 14 are not being matched by the graduation rates in these broad fields of study, as Table 21 reveals. The Faculty of Engineering and the Built Environment, for example, experienced a graduation rate of 14%, which is well short of the 21% graduation rate target. The throughput rates, as reflected in Table 25, indicate wide variations between faculties, indicating that the institution is not performing well.

With respect to the success rates, while the DUT has achieved its enrolment target, a valid question is how relevant is such an achievement? It has been pointed out that the success rate is the total FTE that passed divided by the total FTE enrolled, expressed as a percentage. Since the DUT is actually experiencing a decline in the FTE enrolled (refer to Table 13), the “success” inferred by the success rate is highly questionable.

A further conclusion that may be reached from the preceding discussion is that:

While the DUT is on track to meeting the quantitative performance targets of the enrolment plan, an analysis of these achievements through the FTE enrolled, the graduation rates between faculties and the throughput rates suggest that the institution is not performing well.

9.5.2 Interventions by the DUT

A conclusion that can be reached is that:

There is a strong awareness of the challenges involved in improving success, and there is evidence of academic interventions being implemented within academic departments.

The awareness of the challenges ahead is vital, since the success of any interventions that can be taken by individual institutions hinges on an understanding of the factors within the institution and/or the higher education sector’s control. A report by the CHE states that there are “key factors” within higher education viz. structures, conditions and practices, which have a significant effect on student performance, and which the sector as a whole can address (CHE,2007:38). The report states that

affective factors, arising from institutional culture, can have an influence on academic performance of students. It is likely that issues such as the language issue discussed in the interview with the Acting Director of CHED, and the manner of lecture delivery, can lead to student alienation, and resultant poor performance. The CHE report informs that many institutions have taken action to change their dominant, traditional culture to more inclusive approaches (CHE, 2007:38). A problem, according to the researcher, is that the interventions do not appear to be implemented throughout the institution, pointing to the need for greater coordination and reporting of these efforts.

9.6 Summary of findings for Unit of Analysis Three

The third unit of analysis entailed a study of the problem of dropouts at the DUT. The study was conducted through a telephone survey of dropouts, as well as through interviews and focus group interviews with academically excluded students. The study sought to answer the following questions:

- *Why do students leave the University prematurely?*
- *What are the present activities of students who have dropped out of studies from the DUT?*
- *Do the dropout students wish to return to the DUT to continue with their studies?*

An analysis of dropout rates from the cohort study presented in Table 25 shows that the high dropout rate threatens the overall performance of the DUT in respect of enrolment planning. The findings from the telephone survey of dropouts indicate that the primary cause of the premature departure of students from the DUT was financial problems, although academic exclusions were a significant contributory factor. Financial problems also accounted for poor performance, when students were academically excluded.

The majority of dropouts (43, 7%) were unemployed, 39% were employed and 13, 1% was studying elsewhere. A large number of students wished to return to studies at a later stage.

9.7 Discussion of results and conclusions for Unit of Analysis Three

The DUT's high dropout rate of 47, 28% is symptomatic of the problem of a lower than desirable graduation rate experienced at higher education institutions in South Africa. Although based on a study of a single institution, the study of dropouts presents data that allows three main conclusions to be drawn. They may be applicable to the wider system of higher education in South Africa.

Firstly, the results reported show very clearly the primacy of financial difficulties as determinants of dropping out at the DUT. The fact that finance also seems to play a major role in the causality of academic exclusion reinforces the main conclusion: student success at the DUT is very strongly associated with the inability of many students to pay for their studies. This finding indicates very strongly the need to understand dropping out as a phenomenon related to the socio-economic status of students. As Cloete et al. (2007: 279) assert, in an examination of the role played by the lack of financial resources on student dropout in South Africa,

“It may be that the effect of financial constraints on the drop-out rate is vastly underestimated, particularly in the context of persistent high unemployment, regular increases in tuition fees, and stricter application of financial exclusions and debt collection. The poor retention rates may be a combination of the national government not putting enough money into the NSFAS, the institutions not doing enough enrolment management, and not providing sufficient academic support, and a deteriorating socio-economic climate.”

A second conclusion emerging from this research is that the experience of the DUT demonstrates the need to understand the consequences of high dropout levels. There are three perspectives to mention in support of this conclusion. All are of some importance. First, there are devastating consequences for the individual student and

his/her family. Secondly, the sustainability of the institution is threatened by the high rate of non-completion; it is scant compensation for the DUT to note that few of these students express dissatisfaction with the university's performance. Thirdly, given that many of the students dropping out could have gone on to contribute to easing national skills shortages, the DUT's ability to meet national needs is being severely diminished.

The third conclusion is a policy related one. The assumption that universities such as the DUT can simply take in more students to meet national and social needs cannot be justified. To meet these needs effectively, there needs to be serious consideration given to providing adequate financial support. For policy makers to argue otherwise can be termed naive at best; it may well be argued that such policies are reckless in that they are likely to do more damage than good.

9.8 Recommendations for implementation at the DUT

9.8.1 A framework for enrolment management

The observations made in respect of all three units of analysis of the case lead to a broad recommendation for the development of a framework for enrolment management at the DUT. Within this broad recommendation, various specific issues, as listed below, can be addressed. The framework of enrolment management would provide for a higher level of coordination of matters relating to enrolments at the DUT, and integrate various disparate units and departments at the DUT for the common cause of ensuring stable enrolment levels and the meeting of important performance indicators.

While enrolment management is a critical strategy at many international institutions, there are few institutions that adopt frameworks for enrolment management in South Africa, compared with universities and colleges in the USA, for example. If enrolment management is the proven strategy for institutions to maintain stable enrolments and

to remain financially viable, then the absence of research on the subject, and its omission from practices in South Africa is clearly a problem. Certainly, from the perspective of the DUT, enrolment management does not feature in any of the strategic or operational plans. Enrolment management is not an agenda item in committees of the DUT's Council, Senate or Executive Management.

The adoption of an enrolment management programme can assist the institution in remaining financially viable and meeting its stated goals. Garland and Grace (1993) according to Stewart (2004:21) state that "enrolment management provides a systematic approach to attracting, retaining and graduating students, and, therefore, is a critical component in the stable operation of a higher education institution". Enrolment management cuts across various functions of the institution, including the clarification of institutional purpose, programme development, will direct activities such as marketing and recruitment, financial aid, student orientation, advising and student services, and will serve to attract and retain the students that the DUT wishes to serve.

A structured approach to enrolment management enables the institution to deal with the following issues, which, as pointed out, are to also be regarded as recommendations for the purposes of this study:

- The development of a common approach to developing enrolment plans, including the possibility of using predictive modelling techniques, as used by many institutions overseas.
- The strengthening of mechanisms for communicating planned targets to academic departments, as well as a structured reporting system on the meeting of enrolment targets for individual programmes, including success rates, retention rates and graduation rates.

- The development of guidelines for effective student selection, which will include the appointment of an academic staff member within each department who is tasked with student selection matters.
- The creation of a forum to deal with all enrolment management issues in a coordinated manner. This forum will include key persons from support departments such as Corporate Affairs and Maintenance who are responsible for areas that impact on the image of the institution.

9.8.2 The use of institutional research

Allied to the concept of enrolment management is the use of institutional research. The absence of a dedicated planning department at the DUT which directs appropriate institutional research is clearly a gap, and probably accounts for the lack of information on vital areas at the institution such as detailed data on the student profile, including the characteristics of the students that fail, drop out or succeed. At this point it is not clear which, of many variables, account for success or failure. Institutional research would also assist in understanding failures of the DUT in its throughput and retention rates, and will assist in identifying areas of “blockage” such as non-registration for work-integrated learning, problem subjects and rules that may be considered restrictive for the purposes of student progression.

9.9 Summary of contributions

An original contribution made by this “typical” case study is that it has provided detailed insights into how a specific institution in the South African public higher education sector deals with the challenges of student enrolment planning. The significance of this contribution is underscored by the difficulties in locating research studies on the implementation of policy on student enrolment planning at public higher institutions in South Africa, as pointed out in Chapter One.

Another significant contribution of the research is that it has shown, through a qualitative analysis, that the mere meeting of enrolment targets as set by the enrolment

plan do not reveal the significant inefficiencies and wastage of resources that are still prevalent at the DUT. This finding may be applicable to many higher education institutions in the country. The DUT is on track to meet the “success” indicators of the enrolment plan. Yet, a high dropout rate and low throughput rates for a number of programmes suggest that the meeting of the indicators alone cannot be regarded as acceptable in the long term. This is an area that has to be addressed by policymakers and management officials.

The researcher has also identified, through a careful selection of the units of analysis for the case, the critical issues that impact on the attainment of student enrolment planning targets. It is submitted that the demarcation of these issues could be of value by stimulating further research on the factors impacting on student enrolment planning, and in so doing, lead to a refinement of practice by higher education institutions in the areas identified. In addition, the identification of specific challenges and difficulties by the DUT in areas such as marketing, student selection and student retention can serve as a pointer to higher education institutions generally in their attempts to deal with enrolment planning issues. A further contribution of the study is that it has emphasised, through its recommendations, the need for an integrated and coordinated approach for dealing with enrolment-related issues. The use of enrolment management as an implementation strategy, as advocated in this study, has the potential for vastly improving performance by higher education institutions.

9.10 Suggestions for further research

The dearth of studies relating to student enrolment planning in South Africa suggests that further attention to this subject by researchers would be valuable, particularly taking into account the importance attached to this policy for the meeting of national developmental goals. This study concludes by making the following suggestions for future research on specific aspects of student enrolment planning.

9.10.1 Further case studies on student enrolment planning

Similar single case studies at other higher education institutions could lead to strong generalisations about the implementation of student enrolment planning in South Africa. Such generalisations could play a role in theory building for this research area and would be valuable to the disciplines of public management and higher education studies. Multiple case studies on specific areas of enrolment planning can provide much needed insight into the practices adopted by the sector as a whole.

9.10.2 Research into student-institution fit and student retention

Student admissions and selection practices and their links to student retention or attrition appear to be neglected areas in South African research. The limited existing research, as cited in the literature review, indicates that these practices do play a role in student integration. Since enrolment planning goals are negatively affected by premature student departure, longitudinal studies on issues such as student selection and admissions practices at individual institutions in South Africa would be beneficial research initiatives.

9.10.3 Effects of micro-institutional factors on student success, failure and departure

As indicated by Koen (2007), in his reference to Tinto's SIM (1975), the value of the SIM is the identification of practices within the institution that play a role in student retention and success. Academic practices including lecturing style, use of language in the lecture room and student orientation all play a role in the goal commitment of students and could be regarded as decisive factors that determine whether students persist or fail. These areas are neglected in South African research, yet their impact on student enrolment planning and the goal of improved graduate output make these priority areas.

9.10.4 Policy implementation practices

An area that would be of interest from a South African enrolment planning perspective is to establish the practices adopted by institutions in the country. The adoption of the

framework of enrolment management is commonplace at universities and colleges in the USA; however the extent of enrolment management at South African institutions is unclear at present. Research on this area could stimulate discussions within institutions for the adoption of such a framework.

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Questions for interview with Manager: Student Recruitment

1. What is the staffing structure of your department?
2. What activities does the department engage in in respect of student recruitment?
3. Provide a general indication (perhaps percentage wise) of how these activities are divided.
4. Apart from your line manager, does the institution provide any directives/guidelines in respect of student recruitment?
5. What are the main strategies used by the department to recruit students? Please comment on how well these strategies are working.
6. In what way is recruitment targeted to the goals of DUT?
7. Does the institutions enrolment plan play an actual role in student recruitment?
8. Give examples of this.
9. Are there any limitations to your department playing a more effective role for student recruitment? Please indicate what these are and what measures, if any, are being taken to deal with them.
10. Please offer any suggestions you may have for the improvement of enrolment planning at DUT.

Interview with Executive Director: Corporate Affairs, Ms Nomonde Mbadi on Tuesday, 20 May 2008 at 9:00

1. What are the overall objectives of marketing of the institution?
2. What form does this take?
3. Do marketing initiatives/plans have any reference to our enrolment plan - profile of students (e.g. field of study)?
4. Does marketing incorporate promoting our University of Technology status?
5. What initiatives do Corporate Affairs take in respect of student recruitment?
6. With respect to this year's shortfall in numbers, at first year level, what can you attribute this to?
7. Did the protest action play a role?
8. Are you consulted by the VC's office in respect of enrolments and registration figures?
9. What plans are in place to ensure that we attract a suitable pool of applicants from a marketing point of view?
10. In terms of public image, do you think we are highly regarded – would parents send their children here to study as a first choice?

Interviews with Executive Deans

1. Are selections and matters of student applications dealt with by the Faculty Office or by individual departments (or by both)?
2. Do you feel that the current system of dealing with applications and selections in departments in your faculty is adequate?
What are the main inadequacies?
3. (Depending on answer) Would you say that your response applies to all departments in this faculty?
4. Would you prefer to keep all issues relating to applications, selections within the faculty, or do you believe that you can be assisted by Student Admissions in the Registrar's Office?
5. In what ways can Student Admissions assist?
6. Would statistical information on a regular basis from Student Admissions re: applications, selection statistics and current student profile assist you in respect of enrolment planning and management?
7. What processes were used in drawing up the departments enrolment plans submitted to Management for submission to DoE?
What factors were taken into account in arriving at enrolment targets?
8. What are the reasons for any anomalies in respect of the plan targets and actual intake?
9. What interventions are taken by the Executive Dean when it is ascertained that enrolment targets are not met? Please comment on the extent of their effectiveness.

10. Are issues such as throughput, dropouts, success rates etc discussed at any meetings in the Faculty? Please give examples.
11. How are policies such as the approved enrolment plan communicated to departments?
12. Please offer any suggestions you may have to improve enrolment planning at DUT.

27 March 2009

Dear Respondent

QUESTIONNAIRE ON ISSUES RELATING TO STUDENT ENROLMENT PLANNING AT THE DUT

It would be appreciated if you would complete the attached questionnaire which forms part of a D.Tech (Public Management) study on "*Student Enrolment Planning: the Durban University of Technology as a case study*".

This study addresses, inter-alia, how a specific policy that was introduced by Government (Student Enrolment Planning in Higher Education) is being implemented within higher education institutions (in this case, the DUT).

The questionnaire ought not to take longer than 10 minutes to complete.

Kindly note that the confidentiality of your specific responses is assured as you are not required to supply your name on the questionnaire. Furthermore, the name of the department that you belong to will not be used for the purposes of analysis.

The study has been approved by the Faculty Research Committee.

Please return the questionnaire (details below) before 30 April 2009.

Your co-operation is most appreciated.

Thiru Pillay
Tel: (031) 373 2569
E-Mail: teru@dut.ac.za

Please forward completed questionnaire to Thiru Pillay, Deputy Registrar, Ground Floor, Lansdell Building; Steve Biko Campus. Preferably, use the self-addressed envelope that is attached.

Alternatively the questionnaire can be faxed to extension 2547, or scanned and e-mailed to teru@dut.ac.za

QUESTIONNAIRE ON ISSUES RELATING TO STUDENT ENROLMENT PLANNING AT THE DUT

Department:

(Will not be used for purposes of analysis nor disclosed; this is simply to facilitate collection of responses).

Faculty: (use a cross (X) to denote faculty)

Accounting & Informatics	Applied Sciences	Arts & Design	Eng. & Built Environment	Health Sciences	Management Studies
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Please indicate your response to **each** of the following statements by placing a **single** cross (X) in the appropriate box. Where necessary, provide a written response under “Additional comments”.

1. Marketing and Student recruitment		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1.1	Student recruitment initiatives by DUT’s support departments will generate suitable applicants for my department.	1	2	3	4	5
1.2	My department is involved in student recruitment in addition to the initiatives by Corporate Affairs and the Student Recruitment department.	1	2	3	4	5
1.3	Programmes in my department do not need marketing; they “sell themselves”.	1	2	3	4	5
1.4	Programmes in my department attract more than sufficient numbers of applicants from which to select.	1	2	3	4	5
1.5	The DUT’s Open Week/Careers fair is an important initiative for student recruitment.	1	2	3	4	5
1.6	The quality of applicants to programmes in my department is generally good.	1	2	3	4	5
1.7	Additional comments:					

2. Student selection processes		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
2.1	Student selection processes affect success outcomes in my department.	1	2	3	4	5
2.2	Student selection through the Central Applications Office (CAO) system is an effective method.	1	2	3	4	5
2.3	It is better to wait for the actual Grade 12 results of learners before making any student selection decision.	1	2	3	4	5
2.4	It is premature and therefore risky to make selection decisions based on Grade 11 or trial results.	1	2	3	4	5
2.5	If early selections based on trial or Grade 11 results are not made, applicants may go elsewhere to study.	1	2	3	4	5
2.6	There is a need for aptitude or other selection tests for admission to certain programmes.	1	2	3	4	5
2.7	Additional comments:					

3. Student success		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
3.1	Improving the graduation rate is an important priority for my department.	1	2	3	4	5
3.2	My department is involved in interventions to improve student performance	1	2	3	4	5
3.3	Lecturers generally do not have sufficient time to give attention to the analyzing of performance of students that they teach.	1	2	3	4	5
3.4	The expectations of government to improve performance of students as indicated in enrolment planning targets are unrealistic.	1	2	3	4	5
3.5	There is very little that individual departments can do to minimize dropouts from academic programmes.	1	2	3	4	5
3.6	Additional comments :					

4. To what extent do you agree that the following interventions improve student success?

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
4.1	Use of student tutors	1	2	3	4	5
4.2	Curriculum reviews	1	2	3	4	5
4.3	Student feedback	1	2	3	4	5
4.4	Staff evaluation	1	2	3	4	5
4.5	e-learning	1	2	3	4	5
4.6	Foundation programmes	1	2	3	4	5
4.7	Tracking performance of students from test/exam scores	1	2	3	4	5
4.8	Mentoring programmes	1	2	3	4	5
4.9	Staff Development					
4.10	Additional comments:					

5. My department makes use of the following interventions to improve student success:

You may select as many responses as are applicable.

5.1	Supplemental instruction (for example, use of student tutors)	1
5.2	Curriculum reviews	2
5.3	Student feedback	3
5.4	Staff evaluation	4
5.5	e-learning	5
5.6	Foundation programmes	6
5.7	Tracking performance of students from test/exam scores	7
5.8	Mentoring programmes	8
5.9	Other	9
5.10	None	10
5.11	Additional comments:	

Telephonic Survey of Dropout Students

Personal/Biographical Information

Please confirm the following details:

Name: _____
ID Number: _____
Program last registered for: _____
Address: _____
Telephone: _____ Mobile: _____

What is the reason for your not re- registering with the DUT?.....

Present Occupation:

What is your present occupation? (e.g. studying elsewhere, unemployed, employed)

	Place tick	CODE
Studying Elsewhere		
Employed		
Unemployed		
Other		

If you are studying elsewhere, answer the following questions:

1. What course of study are you pursuing?

.....

2. Which institution are you studying with?

.....

3. Please give reasons for leaving DUT to study elsewhere.

.....

.....

Temporary or Permanent Discontinuation of Students

Have you decided to stop studying altogether, or do you intend continuing with studies at a later stage?

Have stopped studying altogether		
Will continue studying at a later stage		
Not sure		

D) If you have decided to stop studying altogether, answer the following questions:

1. What are the reasons for your discontinuing studies?

2. Is there any possibility of your changing your mind and continuing with studies at a later stage?

If you intend to study at a later stage, answer the following questions:

1. When do you intend continuing with studies?

2. Would you study for the same program or study for a different one?

3. At which institution would you like to study?

4. If not the DUT, why not?

Questionnaire to first-year students regarding Student Recruitment
and selection practices at DUT

Personal/Biographical Information

Please confirm the following details:

Name: _____	
Student Number: _____	
Program Registered for: _____	
Address: _____	
Telephone: _____	Cell: _____

Student Recruitment

1. Did anyone from the DUT visit your high school to persuade you to study here?

Y	N
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2. Did you attend the careers fair organised by the DUT in 2007?

Y	N
---	---

3. Did you attend any career fairs while you were at high school, apart from the one organised by the DUT, where the DUT was providing information about its study programs?

Y	N
---	---

4. What made you eventually decide to study at the DUT?
 (You may select more than one response, if you wish)

4.1 I believe that I can get employment more easily with a DUT qualification	
4.2 DUT has a good academic reputation	
4.3 I know of other people who have studied at DUT	
4.4 I could not get entry at any other institution	
4.5 Another reason not listed above	

5. If you selected 4.5 above, viz. another reason, please state what the reason was.

6. Did you receive any advice and information on the field of study you have chosen?

Y	N
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7. If yes, from where?

Applications and Selections

1. Did you apply to study at the DUT through the CAO?

Y	N
---	---

2. Was your application for a place to study at DUT in 2008 made well in advance (in 2007) or was it made at the beginning of 2008 just before registration?

2007	2008
------	------

3. How were you informed that you had been given a place to study at the DUT?

3.1 I was advised by the CAO	
3.2 I was contacted by the relevant academic department at DUT	
3.3 I contacted the DUT, and was then told to come in to register	
3.4 I checked my selection status on the CAO website	

If by any other means, please indicate:

4. When were you informed that you had been given a place to study at the DUT?

1. In 2007	
2. In 2008, just before student registration	

5. Was the DUT your first choice of institution to study at?

Y	N
---	---

6. Was your first choice of program (the program you MOST wanted to study), the program you are currently registered for?

Y	N
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