

UNIVERSITY OF KWAZULU-NATAL

**A SYSTEMS APPROACH TO THE EVALUATION OF AN ACADEMIC
DEPARTMENT AS A SERVICE PROVIDER AT A UNIVERSITY OF
TECHNOLOGY**

By

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DECLARATION

I, PAUL EDMUND GREEN declare that:

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Revelation 3:8 *“I know thy works: behold, I have set before thee an open door, and no man can shut it: for thou hast a little strength, and hast kept my word, and hast not denied my name”.*

ABSTRACT

Empirical studies have established that the services sector has contributed significantly to the growth and development of world economies and is today the largest and fastest growing sector globally. Testimony to the rise in the supply of services is the fact that the services sector contributes more to the global output and employs more people than any other sector. It has been widely accepted that education belongs to the category of service industries, resulting in the importance of rendering a quality service. In South Africa, although education is the recipient of the major portion of national expenditure, government funding to tertiary institutions has been on the decline, prompting institutions of higher learning to develop innovative methods to maintain financial stability. One of the strategies has been to attract and retain national and international students by the rendering of a quality service.

The purpose of this research is to provide a conceptual framework for gaining a better understanding of evaluation of an academic department as a service provider at a university of technology. The task is viewed as complex as a university is regarded as a highly bureaucratic organisation intertwined with other systems, subsystems and various stakeholders. An investigation into the current state of practice and research into evaluation of academic departments is reported. A review of the research issues on service organisations and their applicability to tertiary institutions is presented. The framework was developed upon principles of Multimethodology, using a combination of the strengths of Critical Systems Thinking, Soft Systems Methodology, Viable System Method, System Dynamics, Work System Method and the Analytic Hierarchy Process by Saaty. This framework is applied to a case study at an academic department of the Durban University of Technology.

TABLE OF CONTENTS

| | Page |
|---|-----------|
| TITLE PAGE | i |
| DECLARATION | ii |
| ACKNOWLEDGEMENTS | iii |
| ABSTRACT | iv |
| LIST OF TABLES | x |
| LIST OF FIGURES | xii |
| GLOSSARY OF TERMS AND ACRONYMS | xv |
| | |
| CHAPTER 1 | 1 |
| INTRODUCTION | |
| 1.1 Background to the Research Problem | 2 |
| 1.1.1 Issues of service quality affecting Universities | 3 |
| 1.1.2 The need for a Systems Approach to evaluation at a University | 6 |
| 1.2 Goal and Sub-goals of the Research | 10 |
| 1.3 Scope and delimitations of the Research | 10 |
| 1.4 Research Methodology | 11 |
| 1.5 Timeline of the Development of the Conceptual Framework | 16 |
| 1.6 Importance of the Research | 19 |
| 1.7 Overview of the structure of the thesis | 20 |
| | |
| CHAPTER 2 | 21 |
| CURRENT STATE OF PRACTICE AND RESEARCH OF EVALUATION | |
| 2.1 Introduction | 22 |
| 2.2 What is Evaluation? | 22 |
| 2.3 Theory of Evaluation | 25 |
| 2.3.1 Evaluation Strategies | 27 |
| 2.3.2 Fourth Generation Evaluation | 30 |
| 2.3.3 Participatory Evaluation | 34 |
| 2.3.4 Empowerment Evaluation | 38 |
| 2.4 Purposes of Evaluation | 41 |
| 2.4.1 Programme Improvement | 41 |
| 2.4.2 Accountability | 42 |

| | | |
|---|--|---------------|
| 2.4.3 | Knowledge Generation | 43 |
| 2.4.4 | Hidden Agendas | 44 |
| 2.5 | Current Practices of Evaluation at Universities | 45 |
| 2.5.1 | European Foundation for Quality Management (EFQM) | 49 |
| 2.5.1.1 | Good Management Project (GMP) 200 | 51 |
| 2.5.1.2 | Good Management Project (GMP) 143 | 52 |
| 2.5.2 | Baldrige National Quality Programme Education Criteria (BNQP) | 55 |
| 2.5.2.1 | Criteria of the Baldrige National Quality Programme (BNQP) | 56 |
| 2.5.3 | Data Envelopment Analysis (DEA) | 59 |
| 2.5.4 | Servqual Model | 61 |
| 2.5.5 | Servperf and Higher Education Performance Model | 62 |
| 2.5.6 | Importance-Performance Analysis (IPA) | 64 |
| 2.5.7 | The Balanced Scorecard | 65 |
| 2.6 | Evaluation Practices in South Africa | 68 |
| 2.6.1 | Higher Education Quality Committee (HEQC) | 69 |
| 2.6.2 | South African Excellence Model (SAEM) | 72 |
| 2.7 | Service Quality | 76 |
| 2.7.1 | The Gap Model | 77 |
| 2.7.2 | Managing Customer Expectations | 81 |
| 2.7.3 | Zones of Customer Tolerance | 82 |
| 2.7.4 | Measuring Service Quality | 83 |
| 2.8 | Analysis of Non-Systemic Approaches of Evaluation | 87 |
| 2.9 | Conclusion | 93 |
| CHAPTER 3 | | 94 |
| CONTEXTUALISING TERTIARY INSTITUTIONS AS SERVICE ORGANISATIONS | | |
| 3.1 | Introduction | 95 |
| 3.2 | What are services? | 95 |
| 3.3 | The unique characteristics of services | 97 |
| 3.3.1 | Intangibility | 99 |
| 3.3.2 | Inseparability | 99 |
| 3.3.3 | Heterogeneity | 100 |

| | | |
|--|--|------------|
| 3.3.4 | Perishability | 100 |
| 3.4 | Services Marketing mix and its applicability to tertiary institutions | 101 |
| 3.4.1 | Product elements | 102 |
| 3.4.2 | Place and time | 102 |
| 3.4.3 | Price and other user outlays | 104 |
| 3.4.4 | Promotion and education | 105 |
| 3.4.5 | Process | 106 |
| 3.4.6 | Physical Evidence | 108 |
| 3.4.7 | People | 109 |
| 3.4.8 | Productivity and quality | 109 |
| 3.5 | Contemporary issues on service quality management | 110 |
| 3.5.1 | The challenges of managing service quality | 112 |
| 3.5.2 | Changes in conceptions of service quality management | 114 |
| 3.6 | Service as a system | 117 |
| 3.7 | Conclusion | 122 |
| CHAPTER 4 | | 124 |
| ANALYSIS OF SYSTEMS METHODOLOGIES | | |
| 4.1 | Introduction | 125 |
| 4.2 | Why systems thinking? | 126 |
| 4.3 | Sociological paradigms | 128 |
| 4.4 | Critical Systems Heuristics | 134 |
| 4.4.1 | Total Systems Intervention (TSI): Versions One and Two | 137 |
| 4.5 | System Dynamics | 144 |
| 4.6 | Soft Systems Methodology | 146 |
| 4.6.1 | Critique of Soft Systems Methodology | 150 |
| 4.7 | The Viable System Model | 151 |
| 4.8 | Work System Method | 154 |
| 4.8.1 | Elements of a Work System and its applicability to this study | 156 |
| 4.8.2 | The Work System Life Cycle | 159 |
| 4.9 | Linking Evaluation to Systems Thinking | 163 |
| 4.10 | The need for Multiple Criteria Decision Analysis in the Evaluation of an Academic Department as a Service Provider | 166 |
| 4.10.1 | The Analytic Hierarchy Process and its extensions | 167 |
| 4.10.2 | AHP and group decision making | 169 |

| | | |
|---|--|------------|
| 4.11 | Conclusion | 170 |
| CHAPTER 5 | | 171 |
| FORMULATION OF A CONCEPTUAL FRAMEWORK | | |
| 5.1 | The nature of the problem of Evaluation of an Academic Department as a service provider | 172 |
| 5.2 | The need for a multi-methodological approach to address the evaluation of an Academic Department as a service provider | 173 |
| 5.3 | Approaches to be included in a conceptual framework for the evaluation of an Academic Department as a service provider | 179 |
| 5.3.1 | Critical Systems Thinking (CST) | 180 |
| 5.3.2 | Soft Systems Methodology (SSM) | 184 |
| 5.3.3 | The Viable System Model (VSM) | 185 |
| 5.3.4 | System Dynamics (SD) | 187 |
| 5.3.5 | Work System Method (WSM) | 190 |
| 5.4 | A Conceptual Framework for the Evaluation of an Academic Department as a service provider at a University of Technology | 193 |
| 5.5 | Conclusion | 197 |
| CHAPTER 6 | | 199 |
| A CASE STUDY ON THE APPLICATION OF THE FRAMEWORK | | |
| 6.1 | Introduction | 200 |
| 6.2 | Background information on higher education in South Africa, the University and Department that was used as a test bed for the implementation of the framework proposed in this study | 200 |
| 6.2.1 | Pietermaritzburg operation of DUT | 203 |
| 6.3 | Stakeholder Analysis | 205 |
| 6.4 | Examination of the evaluation of service quality from multiple perspectives | 207 |
| 6.4.1 | Rich picture of the problem | 207 |
| 6.4.2 | Brainstorming issues associated with the evaluation | 208 |
| 6.4.3 | CATWOE Analysis | 210 |
| 6.4.4 | The use of Boundary Judgement Questions to develop Multiple perspectives for the evaluation of an Academic Department as a service provider | 214 |

| | | |
|-----|--|------------|
| 6.5 | Prioritization of factors influencing the improvement of service quality | 217 |
| 6.6 | Reflection on the approach used in the evaluation of service quality | 244 |
| 6.7 | Conclusion | 247 |
| | CHAPTER 7 | 249 |
| | CONCLUSION AND RECOMMENDATIONS | |
| 7.1 | Introduction | 250 |
| 7.2 | How the goals of the research were achieved | 251 |
| 7.3 | The Theoretical and Practical contributions of the research | 255 |
| 7.4 | Directions for future research | 257 |
| | REFERENCES | 258 |
| | APPENDICES | 304 |
| | APPENDIX 1: List of Workshop Participants – Pietermaritzburg Campus | 305 |
| | APPENDIX 2: List of Workshop Participants – Durban Campus | 306 |
| | APPENDIX 3: A rich picture developed by participants of the workshops | 307 |
| | APPENDIX 4: CATWOE Analysis | 308 |
| | APPENDIX 5: Questionnaire: Boundary questions | 309 |
| | APPENDIX 6: Questionnaire: Analytic Hierarchy Process (AHP) | 312 |
| | APPENDIX 7: Questionnaire: Evaluation of workshops | 315 |
| | APPENDIX 8: Data from workshops | 316 |
| | APPENDIX 9: Pairwise Comparison Priority Index | 318 |
| | APPENDIX 10: Ethical Clearance Letter | 324 |

LIST OF TABLES

| | | |
|------------|---|-----|
| Table 2.1 | Determinants of Service Quality | 84 |
| Table 2.2 | Evaluation Models applied to Higher Education | 90 |
| Table 3.1 | Typical definitions of Service | 96 |
| Table 4.1 | System of Systems Methodologies | 132 |
| Table 4.2 | The boundary categories and questions of CSH | 136 |
| Table 4.3 | Summary of Systems Thinking methodologies | 142 |
| Table 4.4 | Three levels of the Work System Method | 158 |
| Table 4.5 | The comparison scale used to assess the relative importance of One factor over another element in the original Analytic Hierarchy Process | 169 |
| Table 5.1 | Different possibilities for combining methodologies | 176 |
| Table 5.2 | Work System Snapshot of a learner's service experience at a University | 191 |
| Table 5.3 | Mapping of Possible Techniques suitable for the evaluation of an Academic Department on the Three Worlds of Habermas | 194 |
| Table 6.1 | Ideas generated during the brainstorming sessions | 209 |
| Table 6.2 | CATWOE and its meaning in the context of the improvement of service quality at an Academic Department | 211 |
| Table 6.3 | Priority table for the Second Level Issues: Staff and Student Issues; Educational Issues and Organisational Issues | 221 |
| Table 6.4 | Priority table for Global Priorities with respect to the main goal: Evaluation of an Academic Department as a service provider at a UOT | 223 |
| Table 6.5 | Priority table for Local Priority: Organisational Issues | 224 |
| Table 6.6 | Priority table for Local Priority: Educational Issues | 225 |
| Table 6.7 | Priority table for Local Priority: Student and Staff Issues | 226 |
| Table 6.8 | Priority table for the Second Level Issues: Student and Staff Issues; Educational Issues and Organisational Issues (Pietermaritzburg) | 227 |
| Table 6.9 | Priority table with respect to the main goal: Evaluation of an Academic Department as a service provider at a UOT (Pietermaritzburg) | 229 |
| Table 6.10 | Priority table for Local Priority: Organisational Issue | |

| | | |
|------------|--|-----|
| | (Pietermaritzburg) | 230 |
| Table 6.11 | Priority table for Local Priority: Educational Issue (Pietermaritzburg) | 231 |
| Table 6.12 | Priority table Local Priority: Student and Staff Issues (Pietermaritzburg) | 232 |
| Table 6.13 | Priority table for the Second Level Issues: Staff and Student Issues; Educational Issues and Organisational Issues (Durban) | 233 |
| Table 6.14 | Priority table with respect to the main goal: Evaluation of an Academic department as a service provider at a UOT (Durban) | 234 |
| Table 6.15 | Priority table for Local Priority: Organisational Issues (Durban) | 235 |
| Table 6.16 | Priority table for Local Priority: Educational Issues (Durban) | 236 |
| Table 6.17 | Priority table for Local Priority: Staff and Student Issues (Durban) | 237 |
| Table 6.18 | Priority table for the Second Level Issues: Staff and Student Issues; Educational Issues and Organisational Issues (Durban Versus Pietermaritzburg comparison) | 238 |
| Table 6.19 | Priority table with respect to the main goal: Evaluation of an Academic department as a service provider at a UOT (Durban versus Pietermaritzburg comparison) | 240 |
| Table 6.20 | Priority table for Local Priority: Organisational Issues (Durban versus Pietermaritzburg comparison) | 241 |
| Table 6.21 | Priority table for Local Priority: Educational Issues (Durban versus Pietermaritzburg comparison) | 242 |
| Table 6.22 | Priority table for the Second Level Issues: Staff and Student Issues; Educational Issues and Organisational Issues (Durban Versus Pietermaritzburg comparison) | 243 |
| Table 6.23 | An analysis of the participants' responses to the post session questionnaire | 246 |

LIST OF FIGURES

| | | |
|------------|---|-----|
| Figure 1.1 | A Triad of the justification of research | 11 |
| Figure 1.2 | Cycle of Action Research | 13 |
| Figure 2.1 | The EFQM Model | 50 |
| Figure 2.2 | National Education Criteria for Performance Excellence Framework | 56 |
| Figure 2.3 | Proposed Balanced Scorecard Model for institutions of Higher Learning | 67 |
| Figure 2.4 | The South African Excellence Framework | 73 |
| Figure 2.5 | GAP Model of Service Quality | 78 |
| Figure 2.6 | Customers' zones of tolerance for service quality | 83 |
| Figure 3.1 | Goods and services continuum | 98 |
| Figure 3.2 | Value creation and service-dominant logic | 115 |
| Figure 3.3 | The ISPAR Model of service system interactions | 119 |
| Figure 4.1 | The process of Total System Intervention (TSI) | 139 |
| Figure 4.2 | The Learning Cycle of Soft Systems Methodology | 148 |
| Figure 4.3 | The two-strands version of SSM | 149 |
| Figure 4.4 | The Viable System Model | 153 |
| Figure 4.5 | The Work System Framework | 155 |
| Figure 4.6 | The Work System Life Cycle Model | 159 |
| Figure 4.7 | The Service Value Chain Framework | 161 |
| Figure 4.8 | The relationship between the Three Approaches to Evaluation | 165 |
| Figure 5.1 | Approaches used in planning the framework | 180 |
| Figure 5.2 | Viable System Model of a University | 186 |
| Figure 5.3 | System Dynamics in a learning environment | 189 |
| Figure 5.4 | Service value chain framework | 192 |
| Figure 5.5 | Framework for the evaluation of service quality of an Academic Department | 196 |
| Figure 6.1 | Rich picture depicting some of the elementary components in the problem | 206 |
| Figure 6.2 | A Hierarchical representation of the criteria for the improve- ment of Service Quality | 219 |
| Figure 6.3 | Priorities for the Second Level Issues: Staff and Student Issues; Educational Issues and Organisational Issues | 221 |

| | | |
|-------------|--|-----|
| Figure 6.4 | Global Priorities with respect to the main goal: Evaluation of an Academic Department as a service provider at a UOT | 222 |
| Figure 6.5 | Local Priorities with respect to Organisational Issues | 224 |
| Figure 6.6 | Local Priorities with respect to Educational Issues | 225 |
| Figure 6.7 | Local Priorities with respect to Student and Staff Issues | 226 |
| Figure 6.8 | Priorities for the Second Level Issues: Student and Staff Issues; Educational Issues and Organisational Issues (Pietermaritzburg) | 227 |
| Figure 6.9 | Global Priorities with respect to the main goal: Evaluation of an Academic Department as a service provider at a UOT (Pietermaritzburg) | 228 |
| Figure 6.10 | Local Priorities with respect to Organisational Issues (Pietermaritzburg) | 230 |
| Figure 6.11 | Local Priorities with respect to Educational Issues (Pietermaritzburg) | 231 |
| Figure 6.12 | Local Priorities with respect to Student and Staff Issues (Pietermaritzburg) | 232 |
| Figure 6.13 | Priorities for the Second Level Issues: Staff and Student Issues; Educational Issues and Organisational Issues (Durban) | 233 |
| Figure 6.14 | Global Priorities with respect to the main goal: Evaluation of an Academic Department as a service provider at a UOT (Durban) | 234 |
| Figure 6.15 | Local Priorities with respect to Organisational Issues (Durban) | 235 |
| Figure 6.16 | Local Priorities with respect to Educational Issues (Durban) | 236 |
| Figure 6.17 | Local Priorities with respect to Staff and Student Issues (Durban) | 237 |
| Figure 6.18 | Priorities for the Second Level Issues: Staff and Student Issues; Educational Issues and Organisational Issues (Durban versus Pietermaritzburg comparison) | 238 |
| Figure 6.19 | Global Priorities with respect to the main goal: Evaluation of an Academic department as a service provider at a UOT (Durban versus Pietermaritzburg comparison) | 239 |
| Figure 6.20 | Local Priorities with respect to Organisational Issues (Durban versus Pietermaritzburg comparison) | 241 |
| Figure 6.21 | Local Priorities with respect to Educational Issues (Durban versus Pietermaritzburg comparison) | 242 |

Figure 6.22 Priorities for the Second Level Issues: Staff and Student
Issues; Educational Issues and Organisational Issues (Durban
versus Pietermaritzburg comparison)

243

GLOSSARY OF TERMS AND ACRONYMS

AHP – Analytic Hierarchy Process
BNQP – Baldrige National Quality Programme
BSC – Balanced Scorecard
CHE – Council for Higher Education
CLD – Causal Loop Diagrams
CSH – Critical Systems Heuristics
CST – Critical Systems Thinking
DEA – Data Envelopment Analysis
DUT – Durban University of Technology
EFQM – European Foundation for Quality Management
FGE – Fourth Generation Evaluation
HEQC – Higher Education Quality Committee
IPA – Importance – Performance Analysis
MADM – Multi-Attribute Decision Making
MCDM – Multiple Criteria Decision Making
MODM – Multi-Objective Decision Making
NQF – National Qualifications Framework
PMB - Pietermaritzburg
SAEM – South African Excellence Model
SAQA – South African Qualifications Authority
SAST – Strategic Assumptions Surfacing and Testing
SD – System Dynamics
SOSM – System of Systems Methodology
SSM – Soft Systems Methodology
TSI – Total Systems Intervention
UOT – University of Technology
VSM – Viable System Method
WSLC – Work System Life Cycle
WSM – Work System Method

CHAPTER 1

INTRODUCTION

- 1.1 Background to the Research Problem
 - 1.1.1 Issues of service quality affecting Universities
 - 1.1.2 The need for a Systems Approach to evaluation at a University
- 1.2 Goal and Sub-goals of the Research
- 1.3 Scope and delimitations of the Research
- 1.4 Research Methodology
- 1.5 Timeline of the development of the conceptual framework
- 1.6 Importance of the Research
- 1.7 Overview of the structure of the thesis

1.1 BACKGROUND TO THE RESEARCH PROBLEM

A major interest in higher education worldwide has been the evaluation of institutional performance (Kettunen, 2008:323; Zangoueinezhad and Moshabaki, 2011:827; Smith, Smith & Clarke 2007:335). Abdullah (2006:32) indicates that there are a number of problems in developing performance indicators in tertiary education. South Africa has been no exception to the expansion and diversification of higher education. The higher education sector has had various policies promulgated, amended and re-amended in order to change the educational landscape. In 2001, the South African Ministry of Education released the National Plan for Higher Education (NPHE) (Council of Higher Education, 2000), which indicated as one of its policy goals to develop a framework and mechanisms for restructuring the higher education system. The post-apartheid plan for higher education (Department of Education, 2001) has begun to take shape, with universities of technology set to become important elements in the new higher education landscape. As part of the national plan for higher education, universities are required to contribute more meaningfully to social and economic development. Winberg (2004:38) suggests that universities of technology are strategically positioned to play an important role in this regard, firstly, by offering advanced technical and professional higher education and, secondly, by doing the research that will contribute to social, economic and industrial development.

According to Spohrer, Maglio, Bailey and Gruhl (2007:71) service industries, including higher education, over the last two decades have become significant sectors in most economies of industrial societies. Although there has been this significant growth in service industries, there remain no universally accepted definition of service, service productivity, quality, compliance, and innovation as all remain awkward to measure (Spohrer and Maglio, 2010:158). This remains true, also, of the field of higher education. Sampson and Froehle (2006:330) are of the opinion that service delivery requires close interaction with a customer particularly if the nature of the service requires customer participation and input. Tien and Berg (2003:113) advocate that service systems comprise service providers and service clients working together. This is also the case with higher education institutions such as universities.

1.1.1 Issues of service quality affecting universities

According to Spohrer et al. (2007:72) universities are service providers that aim to transform student knowledge. This transformation is dependent upon contracts, relationships, and other interactions among students and universities, including curricula, tuition fees and work-study arrangements. Characteristically, the costs of educational transformations are not absorbed by students completely; universities are subsidized by a number of sources, including private donors, commercial investments, non-profit organizations and government sponsorships. These financial subsidies allow universities to invest in infrastructure and other resources that would otherwise be prohibitively costly.

Bisschoff and Bisschoff (2001:229) identified customer service as a strategic thrust to gain and to retain their student numbers due to strong competition in the tertiary education market in South Africa. O'Neill and Palmer (2004:40) and Potluri and Zeleke (2009:132) are in support of this belief by stating that service quality is the solution in the operations of higher learning institutions to the drastic changes especially in financial assistance and the negative growth in student numbers. Direct relationships between customer satisfaction and profitability have not yet been determined by conclusive research; however, researchers have indicated that a positive correlation exists between service quality through customer retention and success of an enterprise (Dean, 2004, Van den Heever, 1997; Bisschoff, 2000). This correlation is influenced by the level of service quality that customers experience. Woodside, Frey and Daly cited in Van den Heever (1997), refer to the relationship between customer service, service quality and intentions to enter into business transactions by means of an expectancy model of behaviour where service performance forms the basis of continued business intentions of customers towards a specific enterprise. The implication of this is that a satisfied customer is the source of all profits. In the context of a university, a satisfied student becomes active in the so-called word-of-mouth promotions of the university which prove to be valuable assets to the university. For Wisniewski (2001:381) service quality is a concept that has stimulated

considerable interest and discussion in the research literature because of the difficulties in both defining it and measuring it with no overall consensus emerging on either. Academic literature indicates a variety of different definitions of service quality. A common definition of service quality is the extent to which a service meets customers' needs or expectations (Lewis and Mitchell, 1990:12; Dotchin and Oakland, 1994:15; Asubonteng, McCleary, and Swan 1996:63). Service quality can thus be defined as the difference between customer expectations of service and perceived service. If expectations exceed performance, then perceived quality is less than satisfactory and hence customer dissatisfaction occurs (Parasuraman, 2004; Lewis and Mitchell, 1990). To remain competitive, as pointed out by Boyd, Walker & Larrache (1998), a market pioneer has to perform research on the strategic thrust areas and, at a university of technology (UOT), service delivery is a thrust area, hence the importance of the study.

Mintzberg and Rose (2003:270) suggest that the customary view of strategic development in universities is that universities are inundated with strategies, in the sense of consistent patterns of action: within programmes and departments, about pockets of research and approaches to tenure, concerning the construction of buildings and the methods of teaching, learning and assessment. It is often difficult to comprehend the direction of such strategies in terms of their origination, transformation and interconnection with the university environment.

Mintzberg and Rose (2003:271) assert that "no organization fits the model of the professional bureaucracy" better than the university. Likewise, Kothari and Hanscombe (2007:44) state that universities are professional organizations, but with highly bureaucratic processes. Gregory (2009a:606) suggests that as academic institutions become more business-like in their operations, so too are the tools and techniques of business duly assimilated by university managers, particularly as regards the distribution of resources. Meyer (2002:536) notes that departments are requested to define strategic targets, which may be modified in negotiations with the central administration. Eventually, departments receive budgetary allocations based on the money needed to achieve the negotiated targets.

According to Ferlie, Musselin, and Andresani, (2008:326) there is increased suspicion of the performance of traditional publicly funded service systems by publics, politicians and policymakers. Higher education is no different from other publicly funded services where the State may put pressure on publicly funded providers to meet broad public policy goals to cut costs, improve quality or ensure social equity. Ferlie et al. (2008:338) argue that the higher education system is bigger, more expensive, politically more visible and economically more strategic in the twenty first century and external and governmental pressures on higher education systems may be expected to increase.

McLaughlin (1996) states there are generally no recognized standards available to orient senior-level university administrators to new positions. Gentry, Katz, and McFeeters, (2009:337) posit that university administrators have many duties and responsibilities that include working for and with other administrators, faculty, staff and students. With such a workload, Gentry et al. (2009:338) conclude that managerial derailment becomes a possibility. As a solution, universities as centres of learning and student self-exploration, can encourage administrators to be active learners.

Spohrer, Anderson, Pass, and Ager (2008:5) state that interactions between service system entities are what lead to outcomes. The desired outcome is a win-win value co-creation. When two or more service systems interact, the outcome will be judged by each to determine whether value was created or destroyed from their unique frames of reference. For service systems engaged in a provider-customer interaction, the assessment of value depends heavily on the frame of reference of the service system making the judgment. This frame of reference depends on many factors including historical experiences as well as on expectations set at the outset (Spohrer et al., 2008:6). In physical systems, quality is often an absolute measure of properties of the physical artifact. In most service systems, both quality and satisfaction depend heavily on customer expectations.

Universities manage co-production relationships among multiple co-clients, each of whom may or may not be aware of the others or about their relative needs and expectations. Zeithaml and Bitner (2003); Kotler and Armstrong (2010) and Parasuraman (2004) suggest expectations and results vary according to client needs. The student, who experiences the service first-hand, is likely to judge the quality of the service on qualitative measures, whereas a corporate or government sponsor might rely more on quantitative data, such as standardized performance measures and graduation rates. According to Spohrer, Maglio, Bailey, and Gruhl, (2007:74) a university that excels in all of these service relationships produces expected and in certain cases, better than expected outcomes, which results in developing a reputable name for the institution, and thus creating a stronger awareness among prospective employers and students.

1.1.2 The Need for a Systems Approach to Evaluation at a University

Du Toit (2004:183) concludes that education is a service directly impacted on by the provider, and it is only as effective or inadequate as the quality of both the academic and non-academic services. Higher education institutions are increasingly placing greater emphasis on meeting students' expectations and needs. According to Meyer (2002:535) the main goal of education today is to provide individuals with a multifaceted training, and principally with knowledge and skills for creative activities, for adapting to the changes in the natural and social environment and for lifelong learning.

Universities of technology are relatively new in South Africa. A definition of a UOT is found in du Pré (2009:15) "it is not the use of technology within a university which classifies it as a technological university, but rather the interweaving, focus and interrelation between technology and the nature of a university which constitutes a technological university." At a UOT the focal point is on the study of technology from the perspective of diverse fields of study, rather than a particular field of study. The aim of technology then is to improve the lives of human beings. du Pré (2009:16) claims that at a UOT all teaching and learning programmes and research projects are

related to technology. The technology is the qualifying factor inherent to all academic activities.

Winberg (2004:40) suggests that the fear that universities of technology will lower academic standards emanates from a narrow vision of knowledge and scholarship. On the contrary, universities of technology have produced knowledge and scholarship in applied fields, and particularly in areas of technology innovation, technology management, and technology exchange. In the transformation from a “technikon” to a UOT, the brand of these institutions was lost due to the name change. In addition, it was recognized that the concept of a university of technology was not well-known in South Africa.

Education as a service is committed to satisfying the educational needs of its clients by creating education services required by learners and not constraining them to accept existing educational facilities. Diversified educational provision does not guarantee a high quality of education, but different educational services are in a constant state of competition. Vargo and Lusch (2004:2) define services as the application of specialized competencies (knowledge and skills) through deeds, processes, and performances for the benefit of another entity or the entity itself. This implies that almost any purposeful system within a business or governmental entity, including higher education institutions, can be viewed as a service system, as competencies are being applied to something for someone. Hence the importance of this study is to develop a framework for the evaluation of an academic department as a service provider at a UOT using a systems approach.

Following are some of the reasons which justify the need for a systems approach to university management and evaluation. Habib and Parekh (2000) and Hay & Fourie (2002) highlight the fragmented systems inherited from the pre-1994 government(s), which led to a vertically and horizontally fragmented system along provincial level and racial lines. Wyngaard and Kapp (2004) and CHE (2000) discuss the inequities and disjunctions of the systems. Wyngaard and Kapp (2004) expound on the incoherent

and poor articulation between various types of further and higher education institutions. Hay and Fourie (2002) and CHE (2000) concur that the distribution of resources and subsidies amongst further and higher education institutions is unequal. Bunting (1994:3) discusses the poor throughput rates by tertiary institutions. Reddy (1998) cites declining enrolment in some institutions, migration of students between institutions and non-participation in further and higher education. Wyngaard and Kapp (2004) accentuate the impact of legislation (SAQA, NQF, Skills Development Act, Skills Development Levy, Labour Relations Act, Affirmative Action) which changed the profile of institutions and which resulted in increased salaries and the expansion of basic fringe benefits to all members of staff. It is against this backdrop that is necessitated the implementation of a systems approach in higher education.

According to Gregory (2009a:605) modern organisations require a systemic approach to strategic development largely due to their complex, embedded and dynamic nature. Jackson (2003) concludes that the systems discipline has a rich history of how to use methodologies in combination that has culminated in an approach known as critical systems practice. This meta-methodology not only provides advice on which strategic planning approaches to use when, but also on how to view them as a complementary set that is capable of being used in a flexible way to address all aspects of the strategic managerial function. Gregory (2009a:608) advocates two potential contributions of the systems approach, firstly, a significant contribution to the effectiveness and efficiency of the strategic development process and secondly, how systems methodologies can be put into the service of strategic development.

A relatively recent approach to systems thinking is the Work System Method. According to Alter (2007a:34) the work system method (WSM) represents a systems approach as it describes a situation as a system consisting of interacting components that operate together to accomplish a purpose. Alter (2002:91) states that the WSM is a broadly applicable set of ideas that use the concept of “work system” as the crucial point for understanding, analyzing, and improving systems in organizations. The WSM is organized around a typical problem solving process of defining a problem,

gathering and analyzing relevant data, identifying alternatives, and selecting a preferred alternative. Alter (2008a:451) states that a work system is a system in which human participants or machines perform work using information, technology, and other resources to produce products and services for internal or external customers. According to Alter (2002:92) the WSM is designed to be quite flexible. It provides usable guidelines and analytic concepts while simultaneously permitting the analysis to occur in whatever order and level of detail is appropriate for the task at hand. One of the advantages of WSM is that it provides steps which can be used to clarify a system-related issue, identify possible directions for change, and produce and justify recommendations.

According to Alter (2008b:72) service systems produce all services of significance and scope, yet the concept of a service system is not well articulated in the service literature. Alter (2007a:34) argues that a service system is a useful fundamental unit for understanding, analyzing, and designing services. Alter (2007a:35) proposes a work system framework for service organizations (which is an extension of his original ideas to service organizations) which is applicable to a wide range of services. The Work System Framework provides a rich and broadly applicable model of how services operate and evolve. It creates a platform for comparing service situations, identifying important special cases of services, and describes service-design strategies. In considering a university as a service provider operating in a service system, the challenge is to explore the application of systems thinking and the work system framework in relation to the university as a service organization, and more specifically the WSM extension for service organizations – something that has not been done before to the best knowledge of the candidate.

The above review demonstrates the relevance of investigating an academic department of a UOT as a service provider. It also demonstrates the power of systems approaches in management in general and evaluation in particular, as well as the potential to use the latest extension of the Work System Method to service organizations in

combination with elements of Soft Systems Methodology (SSM) for the evaluation of an academic department as a service provider.

1.2 GOAL AND SUB-GOALS OF THE RESEARCH

The goal of the study is to provide a systemic framework for the evaluation of an academic department at a UOT as a service provider to relevant stakeholders.

The main goal is further broken down into the following sub-goals:

1. To investigate the current practice of and research into evaluation of academic departments.
2. Investigation into research issues on service organizations and their applicability to tertiary institutions.
3. To analyze systems methodologies that might be applicable to the evaluation of academic departments.
4. To formulate a systemic framework for evaluation of an academic department at a tertiary institution as a service provider.
5. To apply the framework to a case study at a department at the Durban University of Technology.

1.3 SCOPE AND DELIMITATIONS OF THE RESEARCH

The university as a system is understood in this research as a subsystem of a greater education system, which includes other subsystems like the social subsystems, economic subsystems, political subsystems, technological subsystems, physical subsystems and communication subsystems. The university as a system does not operate as an island, neither does it operate in a vacuum but is interrelated and interdependent on the other subsystems within the greater education system.

The practical implementation of the research investigates the role of evaluation for the improvement of service quality at a UOT. Evaluation is appreciated as an

emancipatory tool utilized as a vehicle for those who are disadvantaged and disempowered and provides them with a conduit to express their concerns.

Although the practical implementation of this research covers the evaluation of an academic department as a service provider at the Durban University of Technology, Riverside Campus based in Pietermaritzburg, it is assumed that the conceptual framework could be applied and utilized at other tertiary institutions nationally and internationally. However, it may need to be adjusted to suit the context.

The scope of this research project is to develop a conceptual framework for the evaluation of an academic department as a service provider at a UOT. The evaluation of higher education *per se* in South Africa is a major research area which requires a study on its own and therefore will not be covered in this thesis. In addition, systems and systems methodologies are numerous and this work will only concentrate on the most suitable systems methodology approaches applicable to this study.

1.4 RESEARCH METHODOLOGY

A useful triad for the justification of research (Robey, 1996) and Landry and Banville (1992), includes research aims, theoretical foundations and research methods. Research aims determine both the theoretical foundations and research methods, whereas theoretical foundations also determine the research methods (See Figure 1.1).

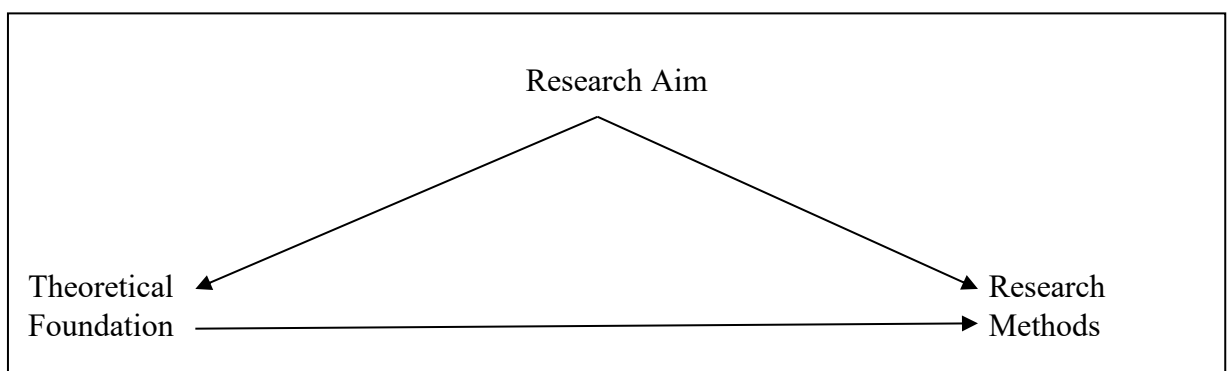


Figure 1.1 A triad of the Justification of Research (adapted from Landry and Banville 1992:79; Robey, 1996:402)

The research aim is to develop a framework for the evaluation of an academic department at a university. According to Checkland and Holwell (1998), the theoretical foundation is important for revealing the basic features of the research. Following Jackson (1995), the theoretical foundation of the work is what distinguishes research from the realm of theoretically unfounded management consultancy. The questions that need to be answered are related to whether a single approach could be applied to this problem or a combination of several approaches or parts of them.

The study will implement action research to develop a mixed method framework for the evaluation of an academic department as a service provider, based on the service organization extension of the Work System Method (Alter, 2007b) and elements of soft systems methodology (Checkland, 1981). Dick (1999) suggests that action research can be described as a family of research methodologies that pursue action (or change) and research (or understanding) at the same time. In most of its forms it achieves this by using a cyclic or spiral process which alternates between action and critical reflection and in the later cycles, continuously refines methods, data and interpretation in the light of the understanding developed in the earlier cycles.

It is therefore an emergent process that takes shape as understanding increases; it is an iterative process that converges towards a better understanding of what happens. In its common form it is also participative and qualitative. Change is often easier to achieve when those who are affected by the change are directly involved.

Baskerville and Wood-Harper (1996:237) mention that the ideal domain of the action research method is revealed in three distinctive characteristics of the method:

- The researcher is *actively involved*, with expected benefit for both *researcher* and *organization*.
- *The knowledge obtained can be immediately applied*. There is not the sense of the detached observer, but that of an active participant wishing to utilize any new knowledge based on an explicit, clear conceptual framework.
- The research is a cyclical process *linking theory and practice*.

Checkland (1985) based the intellectual context on a simple model of the elements of any piece of research (see Figure 1.2). Checkland made reference to this as the “organized use of rational thought”. The essential elements of this model are **F**, an intellectual framework of linked ideas, that is a theory; **M**, a methodology for using this framework; and **A** the area of application, that is the research question. The idyllic domain of a research method is one where M provides the richest scientific knowledge about F in the context of A. When one considers action research in Checkland’s model, Figure 1.2 depicts how this method cycles the research themes of **F** and **M** through **A** to generate reflection, action and ultimately scientific findings (see Checkland, 1991). From Checkland’s viewpoint, action research is a cycle of continuous inquiry where theory interacts with practice. This incessant interaction of theory and practice is the major characteristic of the ideal domain of the action research method.

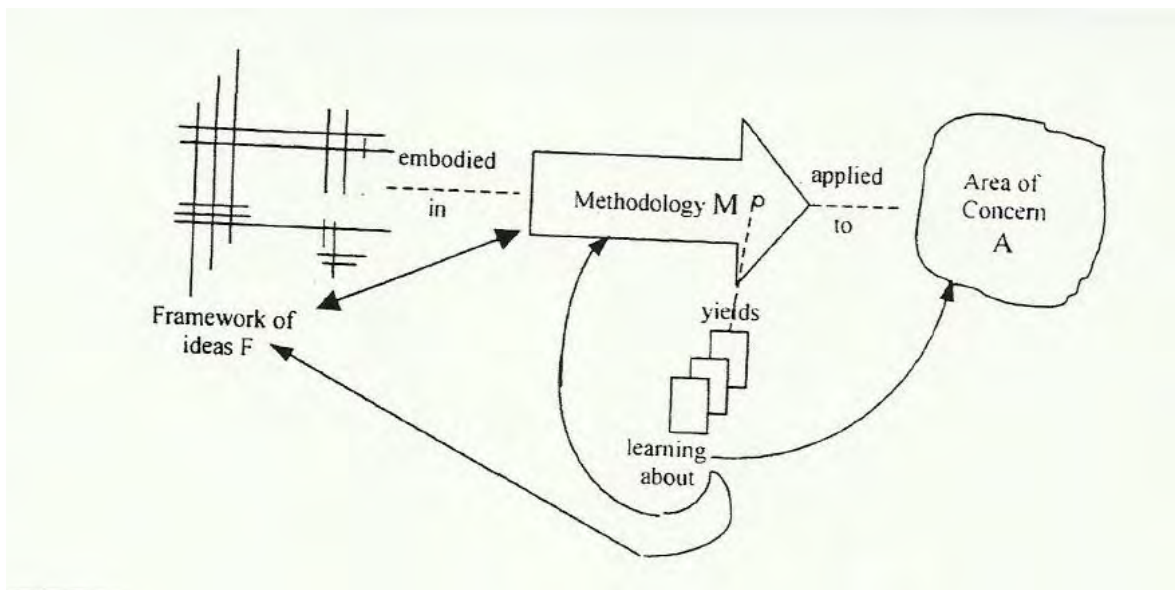


Figure 1.2 Cycle of Action Research (Checkland, 1991:399)

The evaluation of an academic department as a service provider at a UOT is a complex activity, involving various stakeholders with views that do not necessarily coincide. The underlying philosophy of the evaluation framework needs to be sensitive to interests of the disempowered stakeholders as well as providing an inclusive and

enabling environment whereby all stakeholders concerned should be allowed to express their viewpoint. Hence the framework is directed towards a neohumanist nature and for this reason it was defined within the paradigm of Critical Systems Thinking.

Following the work of Checkland (1981), Jackson (1991), Alter (2007a, 2008b) and others, this research takes into consideration the social dimension of the problem situation and the multiplicity of interpretations related to it. The complexity of the problem situation leads to the need to explore the applicability of existing methods for solving complex problems, methods such as systems thinking and multiple criteria decision-making. The analysis of these fields and their potential contribution is presented from a historical perspective, as the understanding of pluralism in systems thinking is constantly evolving and can be understood better in relationship to past developments.

On the basis of the above, a detailed literature survey is conducted in several directions:

- Past research on several issues with regards to evaluation practice and evaluation theory;
- Past research on several issues with regards to problem structuring and techniques of complex and messy systems;
- The analysis of systems and systems methodologies and their applicability to the evaluation of academic departments;
- The practice of Multiple Criteria Decision Making (MCDM), and its potential applicability to prioritization of factors affecting service quality and service improvement.

Based on the extensive literature survey undertaken, a systemic framework (**F**) for the evaluation of an academic department as a service provider at a UOT is proposed. The conceptual framework is justified through the triad in Figure 1.1 and as suggested earlier in Landry and Banville (1992) and Robey (1996).

Following the work of Midgley (1996), the perception of improvement plays a critical role as an emancipatory idea in critical systems thinking. Furthermore, Jackson (1991) describes “emancipatory” as synonymous with releasing the full potential of those previously disadvantaged, that is, those who did not have the power to be heard. In order to put this into practice, the intervention framework includes not only a combination of elements from Soft Systems Methodology, Critical Systems Heuristics, Systems Dynamics and Multicriteria Decision Making, but also elements of the service organization extension of the Work System Method (Alter, 2007b).

The thesis is based on research that uses a systems thinking approach for the evaluation of an academic department as a service provider at the Durban University of Technology. The Critical Systems Thinking paradigm is used to provide a suitable theoretical and philosophical foundation for a systemic framework. Soft Systems Methodology is used as the dominant methodology and is complemented by a Multi-criteria Decision Analysis technique, the Analytic Hierarchy Process as well as the Work System Method. These approaches could be referred to as the methodology **M** in Figure 1.2. This framework was tested on a real case study at an academic department at the Durban University of Technology, Pietermaritzburg Campus. It involved a Multicriteria Decision Making (MCDM) technique, the Analytic Hierarchy Process (AHP) and Soft Systems Methodology (SSM) for the synthesis of an approach enabling better stakeholder participation.

The validation of the framework as a holistic approach to the evaluation of service quality was undertaken from the perspectives of the body of knowledge within the Evaluation of Service Quality, Complex Systems, Systems Thinking and Work System Method. It is highlighted that the formulation of the framework is to be based on a meta-theoretic approach for mixing methods and techniques from different paradigms, called Multimethodology (Mingers and Gill, 1997:2).

Mingers (2001:243) mentions two main arguments in favour of a multimethod approach. The first argument is that the real world is ontologically stratified and

differentiated (Bhaskar, 1994), each paradigm focusing attention on different aspects of the situation and so multimethod research is necessary to deal effectively with the full richness of the real world. The second argument is that a research study is not usually a single, discrete event but a process that typically proceeds through a number of phases. In addition to the above arguments in favour of a multimethod approach, multimethod work also has the following advantages (Tashakkori and Teddlie, 1998), (i) triangulation by seeking to validate data and results by combining a range of data sources, methods, or observers (ii) creativity by discovering fresh or paradoxical factors that stimulate further work, and (iii) expansion by widening the scope of the study to take in wider aspects of the situation.

1.5 TIMELINE OF THE DEVELOPMENT OF THE CONCEPTUAL FRAMEWORK

The main goal of the study was to develop a framework for the evaluation of an academic department as a service provider at a UOT. As previously indicated, an action research approach was implemented that involved a cyclical process between action and critical reflection, continuous refinement and understanding. Critical to the study was the concept of emergence as a consequence of the interactions in the system. The study began with an analysis of the literature on the current practice of and research into evaluation undertaken both nationally and internationally. It was imperative to analyse evaluation approaches applicable to universities as this research was geared towards an evaluation framework for a relatively new type of university in South Africa – universities of technology. The criticisms and gaps identified in the literature on evaluation, as well as interviewing experts in the field of evaluation, assisted in shaping my thoughts regarding the initial development of the framework.

The next step in the timeline involved desk research which concentrated on issues of service organisations and their applicability to tertiary institutions. Current literature on services and service marketing was reviewed with the aim of acquiring a deeper understanding of a university as a service organisation. The notion of a co-production

of service was investigated and the idea was fed into the development of the framework (see Figure 5.5). This was captured in Step 2 of the framework.

Moving along the timeline involved investigating and analysing the systems methodologies and techniques most suitable to the study. Although the literature on systems is vast, only the methodologies and techniques applicable to the study of evaluation were researched. The information gleaned from the analysis of the methodologies assisted with the construction of Step 3 of the framework which entailed the evaluation of the service according to the Three Worlds of Habermas – Social, Personal and Material. Equally important at this stage of the timeline was the analysis of Multiple Criteria Decision Making (MCDM) approaches. A valuable outcome of the study was to consider factors for the improvement of service quality at DUT and Analytic Hierarchy Process (AHP) developed by Saaty (1990) was selected as the most suitable candidate and AHP was used for the prioritisation process of factors influencing improvement of service quality.

To move closer to the goal of the project involved field research. The empirical work undertaken in the study involved a total of 27 participants over a period of five months from July to October 2012. The methodology applied was that of action research and participants were drawn from academic and administrative staff from academic departments, the Dean of the Faculty: Accounting and Informatics, Students' Representative Council (SRC), experts from The Centre for Quality Promotion and Assurance (CQPA), academic development practitioners and members of staff from The Centre for Excellence in Learning and Teaching (CELT). Two separate workshops were conducted, with the first workshop consisting of 12 participants from the Pietermaritzburg Campus, and the second consisting of 15 participants from the Durban Campus. A non-probability sampling technique known as convenience sampling was employed. The aims of the workshops were to identify the relevant stakeholders in the evaluation of service quality at a UOT. The outcome of this process assisted in cementing Step 1 of the framework which was identifying stakeholders in the service. The second aim of the workshops was to generate ideas using multiple

perspectives for the improvement of service quality by an academic department; brainstorming exercises using rich pictures and CATWOE analysis were conducted. The third aim was to develop an appreciation of the bigger picture and unravel the multiple perspectives through the use of Ulrich's twelve boundary judgement questions. The second and third aim of the workshops assisted in developing Step 3 of the framework. The fourth aim was to determine the prioritisation of factors affecting service quality at an academic department of a UOT by conducting a pairwise comparison using AHP. The responses from a questionnaire (see Appendix 6) were collected and captured using a software package called Expert Choice (Version 11). An analysis was conducted and reported in the following manner: firstly, an overall analysis, thereafter an individual analysis for the Durban and Pietermaritzburg campuses respectively and finally by combining and comparing the findings from the Durban and Pietermaritzburg campuses. The knowledge garnered from the workshops was critical in the development of Steps 3 and 4 of the framework.

The next stage in the timeline involved the practical validation of the framework. The framework was firstly tested on an academic department of the Durban University of Technology, based on the Pietermaritzburg Campus which consisted of 12 participants. In an attempt to strengthen the practical validation and applicability of the framework, and drawing on the concept of emergence, evolving patterns and iterative processes, it was decided to further test the framework on a group of 15 participants based on the Durban Campus. The analysis indicated that the participants found the framework extremely useful and applicable to different evaluation environments. A theoretical contribution of the study involved a unique combination of several existing techniques from different paradigms, which are mutually complementary, into one intervention. Although the techniques and paradigms utilised in the study are not innovative the combination and application thereof at a relatively new type of university in South Africa, is to the best of my knowledge original.

1.6 IMPORTANCE OF THE RESEARCH

The main theoretical contribution of the study will be the development of a conceptual framework for the evaluation of an academic department of a UOT as a service provider, a framework that combines elements of SSM and the extension of the Work System Method to service organizations. This contribution can be related to Systems Thinking and to the theory of Higher Education administration.

The practical contribution of the study will be the results from the application of the framework to the Department at the Pietermaritzburg Campus of the Durban University of Technology which will hopefully lead to the improvement of its service to the students and all other stakeholders.

To the best of my knowledge, it is the first conceptual framework for the evaluation of an academic department as a service provider at a UOT, and incorporating a combination of soft and hard approaches. This framework contains a unique synthesis of elements and techniques from different methodologies. The components are parts of well-known approaches; however, the combination of the techniques concerned and the way they have been combined has not been reported before in the literature.

This research has major implications for universities of technologies in South Africa as well as universities nationally and internationally. The proposed framework provides an opportunity for all the relevant stakeholders, especially the students, to participate in a transparent process that will contribute positively to the lives of all who interact with the university.

This research is also important to the management of the various universities of technology as they may gain a better understanding of the issues of service quality and its effect on the university as a whole.

1.7 OVERVIEW OF THE STRUCTURE OF THE THESIS

Chapter One presented an introductory overview of the study.

Chapter Two discusses the current practice of and research into evaluation of academic departments at a UOT.

Chapter Three explores research issues on service organizations and their applicability to tertiary institutions.

Chapter Four provides an analysis of systems methodologies that might be applicable to the evaluation of academic departments.

Chapter Five describes the formulation of a conceptual framework for the evaluation of an academic department at a UOT as a service provider.

Chapter Six discusses the application and findings of the framework used in a field study at the Durban University of Technology.

Chapter Seven presents the conclusions of the research, reflections on how the goals were achieved, and recommendations for future research.

CHAPTER 2

CURRENT PRACTICE OF AND RESEARCH INTO EVALUATION

- 2.1 Introduction
- 2.2 What is Evaluation?
- 2.3 Theory of Evaluation
- 2.4 Purposes of Evaluation
- 2.5 Current Practices of Evaluation at Universities
- 2.6 Evaluation Practices in South Africa
- 2.7 Service Quality
- 2.8 Analysis of Non-Systemic Approaches of Evaluation
- 2.9 Conclusion

2.1 INTRODUCTION

As indicated in the timeline of the development of the conceptual framework, the study began with an analysis of the literature. The purpose of this chapter is to report on the investigations of the current practice of and research into evaluation of academic departments at universities. According to Dorweiler and Yakhou (1994:231) educational institutions across the world have to evaluate actively the quality of the services they offer and to commit to continuous improvements in order to survive the increasingly fierce competition for highly desirable students and the revenue such students generate. This has resulted in students becoming more circumspect in the universities they select. Rowley (1998:8) suggests that interest in the measurement of service quality is thus understandably high and evaluating the quality of the service experience is an integral part of most educational institutions. Many changes within higher education are student-centric, and the current state of financial instability globally, prompts students and their parents to become more aware of value for money. According to Smith, Smith and Clarke (2007:334) academic departments are not immune from being under increasing pressure to provide quality services. The pressure is two-fold, firstly, there is pressure from students through an increase in consumerism and secondly, there is pressure to ensure the provision of quality services to reduce the costs of dealing with the consequences of poor services (Wright and O'Neill, 2002; Petruzzellis and Romanazzi, 2010). Higher education has undergone significant changes in recent years, many of which are externally driven. One of these changes is the concept of evaluation.

2.2 WHAT IS EVALUATION?

Evaluation is defined in the *Collins English Dictionary* (1994) as “to judge or assess the worth of; appraise...” Rossi, Lipsey and Freeman (2004:14) and Scriven (2007:2) define evaluation as the systematic assessment of the worth or merit of some object. Rossi and Scriven agree that evaluation is a systematic endeavour and both use the deliberately ambiguous term “object” which could refer to, among others, a

programme, policy, technology, department or organization. Trochim (2006:1) argues that many types of evaluations do not necessarily result in an assessment of worth or merit and these would include descriptive studies, implementation analyses and formative evaluations. Trochim (2006:2) defines evaluation as the systematic acquisition and assessment of information to provide useful feedback of some object. Most often feedback is perceived as useful if it aids in decision-making. The above definition emphasizes acquiring and assessing information rather than assessing worth or merit since all evaluation work involves collecting and sifting through data, making judgements about the validity of the information and of inferences derived from it, whether or not an assessment of worth or merit results. Cronbach, Ambron, Dornbusch, Hess, Hornik, Phillips, Walker and Weiner (1980) through reflection on the wider field of evaluation and influenced by their view of evaluators as educators, defined evaluation as “an examination conducted to assist in improving a programme and other programmes having the same general purpose”. In education the term evaluation is often used interchangeably with assessment. Lockee, Moore and Burton (2002:3) define assessment as measuring performance either before or after an intervention or both. Thus, assessment can be part of an evaluation, but assessment and evaluation are not synonymous.

Chelimsky (1997) and Rossi et al. (2004) propose that the purposes of evaluation will relate mainly to programme improvement, accountability, or knowledge generation. Trochim (2006:3) supports this assertion by testifying that the generic goal of most evaluations is to provide useful feedback to a variety of audiences including sponsors, administrators, staff, government and other relevant constituencies. Lancaster (1988) cited in Jackson (2001) believes that the main purpose of evaluation is to provide information on which decisions may be based. There is broad consensus that the major goal of evaluation should be to influence decision-making or policy formulation through the provision of empirically-driven feedback. Although there have been more than 100 different types of evaluations identified by Patton (1986) the most fundamental distinction between types is still the Formative Evaluation and the

Summative Evaluation according to Scriven (1991). These two types of evaluation are briefly discussed.

Formative Evaluation: focuses on actual process. It strengthens or improves the object (programme) by examining the delivery of the programme or technology, the quality of its implementation and the assessment of the organisational context, personnel procedures and inputs. Information can be transferred back into the original work to both strengthen and move it forward. Formative evaluation is regarded as an on-going, fluid process which is used to measure the overall progress and areas needing some attention or modification. The category includes:

Needs assessment: Who needs the programme or technology, how great is the need, and what might meet the need?

Evaluability assessment: Is an evaluation feasible and, if so, who should be involved?

Structured conceptualisation: Defines the programme or technology, the target audience, and the possible outcomes.

Implementation evaluation: Is the programme or technology being correctly delivered?

Process evaluation: Would the programme or technology benefit from possible alternative delivery procedures?

Summative Evaluation: focuses on the final product. The information obtained in summative evaluation is intended to provide an overall picture at the end of a stage, frequently measured against fixed criteria. Summative evaluation provides a fixed point of reference and it may provide a measure of success. This category includes:

Outcome evaluation: Did the programme or technology create any demonstrable effects on the specified target(s)?

Impact evaluation: Did the programme or technology create broader or unintended effects beyond the specific targets?

Cost-effectiveness evaluation: What is the cost-benefit ratio of the program or technology?

Secondary analysis: Uses new methods to analyse or ask new questions regarding previously collected data.

Meta-analysis: Integrates the outcome estimates from multiple studies to arrive at overall conclusions

Having discussed the fundamental distinctions between formative and summative assessment it is important to provide a foundation of the theory of evaluation. Following is a discussion on the theory of evaluation.

2.3 THEORY OF EVALUATION

Modern evaluation theories and practices have their intellectual roots in the work of Tyler (1935) in education, Lewin (1948) in social psychology, and Lazarfeld and Rosenberg (1955) in sociology. According to Goldie (2006:211), with the increasing amount of money being spent on social programmes, there was the growing recognition that these programmes, including education, required proper evaluation and mandatory evaluation was introduced.

According to Mathison (2004:2), evaluation theory has been evolving and growing, although there is no single theory of evaluation, nor is there likely ever to be one. Although the methods of evaluation are still borrowed from the social sciences, there is a growing awareness that evaluation is more than the application of methods. Shadish, Cook and Leviton (1991:2) define the ideal theory of evaluation as:

“the ideal (never achievable) evaluation theory would describe and justify why certain evaluation practices lead to particular kinds of results across situations that evaluators confront. It would (a) clarify the activities, processes, and goals of evaluation; (b) explicate relationships among evaluative activities and processes and goals they facilitate; and (c) empirically test propositions to identify and address those that conflict with research or other critically appraised knowledge about evaluation”.

According to Mathison (2004:3) there are numerous theories of evaluation or formulations that somewhat satisfy the specifications of this description, and are referred to more widely as models of evaluations. Some of these models will be discussed later. A theory of evaluation is not a simple theory and must comprise many theories that constitute the practice, and the profession of evaluation.

Noble (1999:15) outlines seven principles of evaluation to be considered by practitioners. According to Noble, evaluation is:

- A research-based discipline with a purpose to inform and clarify and it operates to high standards of rigour and logic.
- Dual purpose as it is a proactive forward-looking activity and, also, a reviewing backward-looking one.
- User and situation dependent as it is undertaken according to the objectives and criteria that are relevant to the organization concerned.
- Short-term as there is not usually sufficient time for results to feed back to and fine-tune the current project. The results will, however, add to the pool of experience to enhance the effectiveness of future projects. Short-term is identified as a period less than 12 months.
- Long-term which operates at a broader, strategic level and usually interrogates issues that concern management. It is here that there is maximum opportunity for (or threat of) the substitution of impact evaluation methodologies with process evaluation.
- Comparative as it frequently makes no absolute judgements but instead draws comparative conclusions.
- Multi-faceted as it is established as a multi-step process with a range of different evaluation strategies required at each step.

Different evaluation strategies incorporate different principles of evaluation. The selection below examines different evaluation strategies.

2.3.1 EVALUATION STRATEGIES

According to Goldie (2006) and Trochim (2006), evaluation strategies mean broad overarching perspectives on evaluation. Each strategy comes with its built-in assumptions about evaluation and emphasizes different aspects of evaluation. Rovai (2003:110) mentions that the evaluator must consider the interests of all stakeholders and how these interests are best served. Next is a discussion on the major groups of evaluation strategies outlined by Trochim (2006) and Worthen, Sanders and Fitzpatrick (1997):

(i) Scientific-experimental models

This model takes into account the values and methods of the sciences specifically the social sciences whereby a priority is placed upon the desirability of impartiality, accuracy, objectivity and the validity of the information generated. Included under scientific –experimental models would be the tradition of experimental and quasi-experimental designs; objectives-based research; economically-oriented perspectives including cost-effectiveness and cost-benefit analysis; and the recent articulation of theory-driven evaluation (Trochim, 2006; Rossi et al., 2004). Rovai (2003) suggests major weaknesses often cited regarding this strategy include the difficulty of evaluators to operate in an environment with ill-defined objectives, to identify unintended outcomes and to measure learning.

Caveats associated with Scientific/Experimental Models: A limitation of this strategy is that it focuses on defining the appropriate measures of input and output, however the cognitive and behavioural processes in human beings are “black box”, and intervening variables may be more important than the supposed “treatment”. Examples of issues of this type include, why have several childhood diseases, once almost exterminated, returned as a national health problem? Why don’t employees welcome performance appraisal reviews? Why don’t improved motor vehicle safety features reduce highway fatalities?

(ii) Management-oriented systems models

According to Worthen et al. (1997) influenced by the work of House (1976, 1983), in management-oriented approaches the central concern is on identifying and meeting the informational needs of managerial decision-makers. Two of the most common of these models are the Programme Evaluation and Review Technique (PERT) and the Critical Path Method (CPM). Both strategies have been widely applied in business and government models. Management-oriented systems emphasize comprehensiveness in evaluation, placing evaluation within a larger framework of organizational activities. A weakness of this strategy is that it tends to reinforce the status quo of management rather than balancing the interests of management with those of other internal and external stakeholders (Rovai, 2003).

Caveats associated with Management-oriented systems models: the formally stated goals may be less important than secondary or even latent goals, as the situation changes; external evaluators may be seen as naive outsiders who cannot really understand the situation, as spies, or as individuals doing the dirty work of pretending to collect data to support foregone conclusions about a particular programme's value; internal evaluators may be seen as lacking the expert credentials of outside evaluators or as not being impartial having been co-opted by interest groups inside the organisation.

(iii) Qualitative models

These models emphasize the importance of observation and the value of subjective human interpretation in the evaluation process. Included in this category are the approaches known in evaluation as naturalistic or "Fourth Generation" evaluation; the various qualitative schools; critical theory and art criticism approaches; and 'grounded theory'.

Caveats associated with Qualitative models include: difficulties with these models involve the subjective nature and lack of comparability of the evaluations; fairness may also be problematic, if the evaluator is not in a position to describe and defend the criteria being used to make evaluations. Qualitative models find it very hard to generalize to other situations, although there have been attempts made to provide “quality control” through the application of outside “auditing” principles.

(iv) Participant-oriented models

In this model the emphasis is placed upon the importance of the evaluation participants, especially clients and the users of the programme or technology (Worthen et al. 1997; Trochim, 2006). The involvement of the participants is central in determining the values, criteria, needs and data for the evaluation. Client-centred and stakeholder approaches are examples of participant-oriented models, as well as consumer-oriented evaluation systems. A possible weakness of the participant-oriented model is that each stakeholder is likely to have different criteria regarding programme value and effectiveness (Rovai, 2003:111). For example, some staff may be opposed to the concept of evaluation altogether. If the evaluator attempts to find common ground and to satisfy all stakeholders, the evaluation is likely to become ineffective.

Caveats associated with Participant-oriented evaluation: Difficulties may arise due to the inability to reach consensus by a wider variety of stakeholders, disagreements about criteria, and the finite limitation of resources.

The utility of Guba and Lincoln’s (1989) Fourth Generation Evaluation method has been a source of debate in the field of evaluation (see Adelman, 1996; Greene, 1996; Laughlin and Broadbent, 1996). Following is a discussion of Fourth Generation Evaluation.

2.3.2 FOURTH GENERATION EVALUATION

Trochim (2009:15) suggests that the goal of evaluation is to provide some feedback regarding that which is evaluated, and as such evaluation can influence decision making or policy formulation. Guba and Lincoln (1989) have defined the shifting paradigms of evaluation. There have been three generations of evaluation which were predominantly based on the positivist paradigm. The first generation was referred to as measurement based and the role of the evaluator was therefore that of measurer and technical in nature. This approach utilizes largely quantitative instruments of measurement. An example in the education system is whereby students are evaluated in terms of their ability to repeat the information they have been taught. Guba and Lincoln (1989) supported by Morse (1994) believe the evaluators are merely evaluating the memorization capacity of the students. Trochim (2009:16) asserts that this generation of evaluation methods can be categorized into the scientific-experimental models strategy. Cucuzzella (2009:3) states that these are the most historically dominant evaluation strategies.

The second generation evaluation approaches are referred to as objective based. In this generation objectives were introduced into the analysis to enable factual outcomes identified by the measurement paradigm to be described against the intentions of the events. The evaluator in this context added the additional task of describer to the measurement role.

Third generation evaluation methods are referred to as judgement based approaches whereby the evaluator is a judge. Guba and Lincoln (1989) believe the role of the evaluator in this generation is to judge merit and worth on the basis of standards and models. Trochim (2009:16) sees this generation fall into the management-oriented systems model strategy, where depth and breadth in evaluation are the emphasis. In this method, the evaluator became judge in addition to the existing roles of measurer and describer. Multi-Criteria Decision Analysis (MCDA) methods, Programme

Evaluation Review Technique (PERT) and Critical Path Method (CPM) will fall into the category of third generation evaluation methods.

Guba and Lincoln (1989) argued that there were some serious limitations to the perspectives on evaluation provided by all of these three generations. In particular, they failed to grasp:

- The real *power relations* existing and pressuring the evaluator within the evaluation process. These power structures not only affected the relationships between those being evaluated, but also curtailed the practical ability of the evaluator to be a natural outsider;
- The *plurality of value bases* existing simultaneously within the evaluation process, in addition to the multiple interests, agendas, and perceptions; and the consequential need to accept and cope with multiple perspectives within the evaluation process.

As a consequence to these limitations, a “fourth generation” by Guba and Lincoln (1989) refined the evaluation methodology. Guba and Lincoln (1989); Morse (1994) state that Fourth Generation Evaluation (FGE) is defined by the shift in epistemological positions, from a predominantly positivist to a constructivist paradigm. There are two main phases of a constructivist evaluation; discovery and assimilation.

- The *discovery phase* is the phase where the evaluator provides a description of “what is going on here”. The word here can be substituted with process, programme, person that is being evaluated.
- The *assimilation phase* is where the evaluator incorporates the new discoveries into existing knowledge regarding the object to evaluate.

The Fourth Generation Evaluation was defined as a *hermeneutic dialectic negotiation* (see Koch, 2000:117), where the evaluator is both a *facilitator* that elicits the views of different stakeholders, and a *mediator* in bringing the stakeholders to a level of consensus as to what happened in the past, and what should happen in the future. Koch (2000) mentions that the appeal of a “negotiation” process is that the evaluation strives to give its stakeholders a voice or the opportunity “to have a say” about things that affect them. The fourth generation evaluator does not attempt to identify “facts”, but rather to highlight and mediate between varying views rooted in different interests and worldviews. Likewise, the fourth generation evaluator will not seek to determine a solution, but rather facilitates the discussion among the various stakeholders.

Trochim (2009:16) asserts that FGE methods can be seen to fall into the category of qualitative/anthropological models and participant-oriented models. In qualitative models the emphasis is on the significance of observation and the value of subjective human interpretation while participant-oriented models highlight the importance of the evaluation participants and the value of their knowledge, especially clients and users of the object to evaluate. Huebner and Betts (1999:342) believe the main advantages to such an evaluation approach, regarding the negotiation process of the stakeholders, are:

“(1) attempts to help them reach consensus about their reality or to recognise discrepancies; (2) educational because the process provides the stakeholder with the opportunity to incorporate others’ perspectives of the construct into their own; and (3) empowering because the entire process is built on negotiated stakeholders’ constructions of the evaluand”.

The process of FGE involves firstly, the identification of stakeholders, secondly, understanding and comprehending stakeholders’ claims, issues and concerns about the construct of the problem to evaluate; and thirdly, seeking consensus among stakeholders via discussion, negotiation and exchange (see Guba and Lincoln, 1989; Huebner & Betts, 1999:343). It is during the last phase where the opportunities for co-learning and co-creation arise. Rebien (1996:155) suggests that social change is seen

to take place when stakeholders themselves create their own solutions based on their understanding of the problem.

According to Zadek (2000), FGE has several shortcomings that if left unchallenged will undermine the value of the method from both theoretical and practical viewpoints. The two particular shortcomings he underlines are:

Preconception of Preconditions: Guba and Lincoln (1989) are of the opinion that it is only through a hermeneutic process that effective mediation between different interests and insights become possible. They set out what they consider to be the preconditions for such a “productive hermeneutic dialectical negotiation”, which include: the need for all parties to work from a position of integrity; a willingness of all stakeholders to share power; a willingness of all stakeholders to change; and a willingness of all stakeholders to reconsider their value positions (see Guba and Lincoln, 1989:148-149).

Zadek (2000) believes there are some problems with these conditions and the most obvious being that these conditions are unlikely to pertain except in the rarest of cases. Groups with relative power seldom want to share on any meaningful basis in practice, even those who say or actually think that they do. The danger of Guba and Lincoln’s severe conditions are that they marginalise Fourth Generation Evaluation from its practical process. Secondly, the hermeneutic dialectic process proposed by Guba and Lincoln would arguably not be necessary if these conditions did actually prevail. That is not to say that there is no space for a process to increase mutual understanding between the most collegial of people. Rather, it is amiss that the hermeneutic process is necessarily political, which in itself implies that Guba and Lincoln’s preconditions do not hold. Consequently, Fourth Generation Evaluation has potential value as an emancipatory process primarily because these preconditions do not prevail in our society and as such Guba and Lincoln undervalue their own insight by imposing these conditions.

Mediation for Action: The approach in which Guba and Lincoln develop their argument in favour of Fourth Generation Evaluation is in itself an interesting example of the very polarisation process that they themselves are criticising. As mentioned earlier, FGE is posited as an alternative to a positivist approach. A different and useful interpretation is that the critical responsive and constructivist elements of the approach constitute one aspect of an appropriate evaluation process. Particularly, without incorporating an understanding of a mediated solution that is essentially deemed a “consensual truth” by the stakeholders, consequential actions become almost impossible to determine. This implies that different stakeholders could interpret a particular event differently. However, for a consequential action to arise from the evaluation process requires ultimately that a “fact” be determined through this process that forms the basis for agreement and further action.

Zadek (2000) believes strict preconditions and polarisation of conventional approaches endanger the practical application of his proposed method, and its internal consistency. Koch (2000:124) warns that the power aspects of the negotiation cannot be understated and evaluators would benefit from cautious appreciation and thorough prior analysis of situations. The rhetoric of FGE is that it may empower, liberate and emancipate (Guba and Lincoln, 1989). It seems the most it can give stakeholders is a sense of control over their lives and/or the workplace.

Another important approach of evaluation is participatory evaluation. Participatory evaluation differs from traditional evaluation by attempting to include all stakeholders in all aspects of the process, a characteristic which is of particular importance to this study.

2.3.3 PARTICIPATORY EVALUATION

Participatory evaluation has gained popularity in recent years due to an acknowledgement that stakeholders should not only be involved in defining the problem but also in collecting, analysing and interpreting the data for project

development and analysis (Bradley, Mayfield, Hehta, and Rukonge, (2002); Edun, (2000); and Estrella, 2000). Cornwall (1996) and Mtshali (2000) advocate that participatory evaluation has the potential to incorporate local knowledge into the process of evaluation as well as to build the analytical capacity of participants to evaluate their own needs and priorities, make decisions on these issues and take action to address problems (Estrella and Gaventa, 1998).

Weiss (1998) sees participatory evaluation ranged on a continuum with stakeholder, collaborative and empowerment evaluation along the continuum. Hall and Hall (2004) describe stakeholder evaluation as engaging with different stakeholder interests in order to understand their views, concerns and priorities, but maintain that the evaluator is in charge of the conduct of the evaluation. However, Cousins and Earl (1992) provide a differentiation between participatory evaluation and the conventional stakeholder-based model. Collaborative evaluation places the evaluator as “co-investigator” with programme staff, where the research skills of the one are combined with the empirical knowledge of the others to take joint responsibility for the evaluation. On the other end of the continuum, empowerment evaluation gives control of the evaluation to the practitioners, with advice and help from the evaluator.

Diez and Estaban (2000) maintain that participatory evaluation starts out from a recognition that evaluation develops within a pluralistic society and allows evaluation to be built upon the ideas, values and aspirations of those taking part at all levels and throughout the whole evaluation process. Similarly, the evaluation design gradually takes shape through the collaboration of all the stakeholders and their active participation in the analytical evaluation process. The implication is that the focus increases the probability that the results achieved through the evaluation will be used in an effective way to improve the policy, since it creates space for the actors in the programme to make the actual process and its results their own, thereby transforming the evaluation into a learning process.

The evaluation of an academic department as a service provider should be understood as a participatory evaluation since this approach makes it possible to convert evaluation into an exercise contributing to achieving the goals of acceptable service quality. Diez and Estaban (2000) assert that it is precisely at the regional and/or local level where participatory evaluation can be easily implemented. Stame (1999:106) who is in support of the approach maintains that the evaluation of new regional policies (including those affecting service quality at a university) should be transformed into participatory evaluation and the viewpoints of the different actors in relation to both the methodology as well as the content of the evaluation should be taken into consideration. Equally, Kuhlmann (1998) stresses how the various interests and perceptions of the actors taking part must be explicitly taken into account.

Some of the advantages that participatory evaluation introduces into the evaluation practice will now be discussed:

Evaluation is understood as a learning process particularly from the perspectives of all the stakeholders involved. According to Kuhlmann (1998:131) evaluation ceases to be an exercise of assessment where the predominant perspective comes from only one source, when this only is the view of the policy designer, as the only criteria for evaluation, this becomes an exercise simulating the appearance of a learning process.

Kuhlmann (1998:132) believes this learning process allows the creation of a working framework where the evaluation process is used to build trust among stakeholders, managers, institutions and evaluators. Participatory evaluation provides the space to democratise the process of knowledge building when active participation is a practice applied throughout the entire evaluation process and be directed towards identifying and resolving problems and improving understanding.

Although evaluation is used to create useful knowledge for those involved in the process in order to achieve their objectives, Finne, Levin and Nilssen (1995:13) believe the process is aimed at creating a situation where new understanding is built on the best from all participants. In a pluralist society where there exist a multiplicity of

viewpoints and perspectives, to expect to obtain an exact objective measure of impact, is neither possible nor desirable. Furthermore, when attempting to evaluate complex organisations the objective must be to create practical knowledge, instead of mechanistic judgements concerning the results, and attention must be fixed constantly on the learning process.

Participatory evaluation favours learning for action, since the evaluation process is used to propel action directed at improvement. Finne et al. (1995:14) suggest that it is a practical kind of knowledge that will stimulate the capacity of governments, community institutions and organisations like universities, to solve the pertinent problems.

Diez and Esteban (2000) claim that participatory evaluation makes it possible to strengthen the power of the participants to resolve their economic and social problems. Against this background, some researchers highlight the capacity of evaluation to prepare the community for action (empowerment). Evaluation is understood as a process of collaborative change that combines knowledge creation and, through learning, facilitates mobilisation for action. Participatory evaluation may be conceptualised as a way of developing awareness, facilitating learning and empowering the different stakeholders to resolve the challenges confronting them.

Academic literature indicates that evaluation is seen as an instrument that makes it possible to observe the progress of the initiative, make short term corrections and centre on the proposed objectives. Through evaluation, the meaning of social reality can be explained from different perspectives, while there is an increased possibility that the stakeholders will feel that the results are relevant and proper to them and that there is a guarantee of them being put into practice.

Some of the drawbacks of participatory evaluation are that it may be much more time-consuming for both the evaluator and the organisation than a traditional goal-oriented evaluation where the question to be asked and the methodology to be followed are

determined in advance. Participants will require time off from their regular duties in order to participate effectively in the evaluation process. In addition, clients and participants may require special assistance to become integrally involved in the evaluation. In order for the entire evaluative process to be participatory, the details of the evaluation cannot be fully identified in advance, because use of specific reporting criteria or other evaluation guidelines dictated by sponsors or funders, will limit the participation and input of both evaluators and non-evaluators. Upshur and Barreto-Cortez (1995:8) propose that a truly participatory process is entirely in the hands of the participants, not the evaluator or an outside source. This can empower participants, but it means that in order to use participatory evaluation, the organisation must be committed to the endeavour and the context must be appropriate.

Participatory evaluation allows evaluators, participants, managers and those directly and indirectly affected, to work together in an open exchange of information where all have an opportunity to participate in the debate. This process of collaboration creates new demands for evaluation. The aim of evaluation moves beyond its contribution towards an understanding of the effects of the phenomena under study and of the generation of learning processes, to a stage of how this knowledge and learning can be used in taking decisions. Evaluation plays a new role in which the interchange of information, and formal and informal learning, demystifies the process of evaluation itself, clarifies the function and expectations of what evaluation can offer, and generates mutual trust, helping actors to know and understand how others see the world.

2.3.4 EMPOWERMENT EVALUATION

Fetterman (1996:4) initially defined empowerment evaluation as “the use of evaluation concepts, techniques, and findings to foster improvement and self-determination”. However, since its inception in the early nineties, there has been controversy around the definition of empowerment evaluation. The current definition of empowerment evaluation is:

“An evaluation approach that aims to increase the probability of achieving programme success by:

- (1) Providing stakeholders with tools for assessing the planning, implementation, and self-evaluation of their program, and*
- (2) Mainstreaming evaluation as part of the planning and management of the program/organization.” (Wandersman, Snell-Johns, Lentz, Fetterman, Keener, Livet, Imm, and Flaspohler, 2005:28).*

Fetterman and Wandersman (2007:180) argue that they did not abandon the original definition but rather they have explicitly built on the existing definition in pursuit of greater conceptual clarity.

One of the distinctions of empowerment evaluation is that the participants are encouraged to perform their own evaluations with the assistance, guidance and coaching of the evaluator (Fetterman, 1996). In essence, empowerment evaluation is democratic since it encourages active participation in the process and provides a platform for discussing relevant concerns. This method of evaluation attempts to increase the rights of self-determination by using various research methods. The researcher’s role is to educate the participants on the principles of evaluation. Consequently, the role of the evaluator is to act as a trainer and a teacher in the evaluation process. Empowerment evaluation’s aim is not only to evaluate the quality of the implementation but more importantly to develop the existing execution process of the organisation or programme.

In addition, empowerment evaluation changes the evaluation context whereby, the assessment of the programme’s worth is not the final stage. The understanding behind this is that the merit of a programme is fluid and will change as the context changes over time. As a consequence, participants develop evaluation skills and learn to critically appraise their progress continually through the evaluator’s supervision and training. Fetterman and Wandersman (2007:182) state that philosophically, self-determination is intended to be a fundamental outcome of this approach.

The process of empowerment evaluation comprises four stages. The *first stage* involves taking stock of the present situation of the evaluation object. This is undertaken by collecting all essential factors connected with the activity. Based on these factors, one can create a base line from which future progress can be measured. The *second stage* of empowerment evaluation is setting the goals. The importance of this stage is that the setting of goals is proportioned to the present condition of the evaluation object. In so doing, the goals will provide the trajectory in which the function should go in future. Subsequently, the goals are proportioned to the activity. The *third stage* is developing the strategies. The participants involved in the evaluation are apportioned responsibility in selecting and developing strategies to accomplish programme objectives. The *fourth stage* is recording the progress. All involved in the evaluation process have an opportunity to influence the way the information produced by the function and evaluation, and the possible development, will be documented (Fetterman, Kaftarian, and Wandersman, 1996).

Despite empowerment evaluation's popularity, it is also a highly contested approach (see Miller and Campbell, 2006:297). The same authors argue that empowerment evaluation lacks conceptual clarity which makes it relatively indistinguishable from a variety of the other participatory and collaborative approaches. Since it draws on dialogue relating to social change and from illuminative evaluation jargon, in its pursuit for social justice, it has been suggested that it has become conceptually ambiguous (Miller and Campbell, 2006:299). Furthermore, because it emphasizes democratic processes to augment buy-in and participant ownership, it further entrenches its inarticulate conceptual boundaries given that it shares numerous similarities with other capacity-building approaches.

A second criticism which has been levelled at empowerment evaluation is that there is a lack of accord in its practical implementation (see Miller and Campbell, 2006:305). These authors argue that there appears to be insufficient clarity in terms of identifying programme evaluators which fall within the ambit of an empowerment evaluation framework. Thus the agreement of its execution has been contested.

Another critique of the method is that there is insufficient empirical evidence to suggest that it satisfies its intended purpose. It has been contended that the means for assessing the success of an empowerment evaluation are underdeveloped and as a result, there is insufficient evidence to suggest that it is an empowering approach. Other critiques include its over-reliance on self-study which may hinder the evaluations objectivity, and the lack of rigour between differing evaluations which can result in fake evaluations.

According to Trochim (2006) debates rage as to how to decide to choose an evaluation strategy. Each strategy claims superiority of its position. Most good evaluators are familiar with all four categories and borrow from each as the need arises. There is no inherent incompatibility between these broad strategies as each strategy has a unique advantage. Recently, attention has increasingly moved to how the results from different evaluation strategies can be integrated. Academic literature claims there is no simple answer. Differences in opinion with respect to an appropriate evaluation strategy may stem from divergent notions of the purpose of evaluation.

2.4 PURPOSES OF EVALUATION

The following discussion on the purposes of evaluation, *viz.* programme improvement, accountability and knowledge generation is based on the work of Patton, 1996; Chelimsky and Shadish, 1997; and Rossi et al. 2004. These perspectives are not mutually exclusive. Each may be required at particular times, for example, evaluation for knowledge may need to precede accountability.

2.4.1 Programme Improvement

Evaluation may thus be necessary to effect programme improvement. According to Scriven (1991) an evaluation intended to furnish information for guiding programme improvement is called formative evaluation because its purpose is to help form or shape the programme to perform better. Lockee et al. (2002) agree with Scriven by

mentioning that formative evaluation serves to improve products, programmes, and learning activities by providing information during planning and development. Trochim (2006) asserts that formative evaluation includes several evaluation types, *viz. needs assessment* determines who needs the programme, how great the need is, and what might work to meet the need; *evaluability assessment* determines whether an evaluation is feasible and how stakeholders can help shape its usefulness; *implementation evaluation* monitors the fidelity of the programme or technology delivery; and *process evaluation* investigates the process of delivering the programme or technology, including alternative delivery procedures. A literature review indicates that evaluation for programme improvement characteristically emphasizes findings that are timely, concrete and immediately useful.

2.4.2 Accountability

A further basis for evaluation of programmes is to enhance accountability of programme providers. Alkin and Christie (2004:383) write that accountability refers to the process of “giving an account” or being answerable or capable of being accounted for. Chelimsky and Shadish (1997) state that the purpose of accountability is to measure results or value for funds expended, to determine costs and to assess efficiency. Likewise, managers are thus expected to use resources effectively and efficiently and produce the intended expectations. An evaluation conducted to determine whether expectations are met is called summative evaluation (Scriven, 1991). Lockee et al. (2002) cites summative evaluation as determining if the products, programmes, and learning activities, usually in the aggregate, worked in terms of the need addressed or system goal. Its purpose is to provide a summary judgement of the programme’s performance. The findings of summative evaluations are usually intended for decision makers with major roles in programme oversight. Trochim (2006) suggests that summative evaluation can also be subdivided into the following, *outcome evaluations* which investigate whether the programme or technology caused demonstrable effects on specifically defined target outcomes; *impact evaluation* which is broader and assesses the overall or net effects, intended or unintended of the

programme or technology as a whole; *cost-effectiveness and cost-benefit analysis* address questions of efficiency by standardizing outcomes in terms of their costs and values; *secondary analysis* re-examines existing data to address new questions or the use of methods not previously employed and *meta-analysis* integrates the outcome estimates from multiple studies to arrive at an overall or summary judgement on an evaluation question.

2.4.3 Knowledge Generation

It has also been argued that programmes should be evaluated in terms of the knowledge they generate. Patton (1996) notes that an increasingly important evaluation purpose that goes beyond the formative-summative evaluation is the area of knowledge-generation. Both judgement-oriented (summative) and improvement-oriented (formative) evaluations involve the instrumental use of results (Leviton & Hughes, 1981). Instrumental use occurs when a decision or action follows, at least in part, from the evaluation. Rossi et al. (2004) argue that some evaluations are commissioned to describe the nature and effects of an intervention as a contribution to knowledge. Evaluations of this nature are intended to make contributions to the social science knowledge base or be a basis for significant programme innovation. This type of evaluation uses the most rigorous methods feasible. The uses of the findings will include sponsors of the research as well as interested scholars and policymakers and will be disseminated through scholarly journals, conference papers and other professional outlets.

Weiss (1990:176) used this term to describe the effects of evaluation findings being disseminated to the larger policy community “where they have a chance to affect the terms of debate, the language in which it is conducted, and the ideas that are considered relevant in its resolution.” While Weiss has emphasized the informal manner in which evaluation findings provide a knowledge base for policy over time, Chen has focused on a more formal knowledge-oriented approach in what he called “theory-driven evaluation” (Chen, 1989, Chen and Rossi, 1987). Though theory-

driven evaluations can provide programme models for summative judgement or on-going improvement, the connection to social science theory also offers the potential for increasing knowledge about how effective programmes work in general.

2.4.4 Hidden Agendas

According to Rossi et al. (2004), sometimes the true purpose of evaluation has little to do with acquiring information about the programme's performance. It is said that evaluation is launched as it is believed it will be good public relations and might impress funders or political decision makers. Sometimes, an evaluation is commissioned to provide a rationale for a decision that has already been made behind the scenes to terminate a programme or dismiss an administrator. Or an evaluation may be undertaken as a delaying tactic to appease critics and defer difficult decisions (Rossi et al., 2004). Research literature suggests that all evaluations involve some political manoeuvring and political relations and the evaluator is consequently presented with a difficult dilemma. Rossi et al. (2004) confirm that evaluation must either be guided by the political or public relations purposes or focus on programme performance issues.

According to Neave (1998), innovative evaluations have developed since the late 1980s due mainly to the great social changes associated with mass higher education. Hostmark-Tarrou (1999:270) points out that politicians and researchers have explained this shift of focus in the evaluation of universities as a result of major changes in society. Innovative evaluations mostly involve the functioning of the institutions, disciplines, and the national education and research system. This study attempts to address the evaluation of an academic department as a service provider at a university.

The next section reviews the literature in respect of the innovative evaluation procedures adopted by universities.

2.5 CURRENT PRACTICES OF EVALUATION AT UNIVERSITIES

Evaluation is at the core of the functioning of universities and the formation of their value priorities (Maassen, 1997; Hostmark-Tarrou, 1999). According to Ursin et al. (2008:110), evaluation has always existed in universities, although the form it has taken has evolved over recent decades.

Higher education has two overlapping areas; the evaluation of teaching and learning (Soutar and McNeil, 1996:73) and the evaluation of the quality of the total student experience (Hill, 1995:10; Stodnick and Rogers, 2008:116). The evaluation of teaching and learning depends on each student's approach to learning, while the student experience is much more than just teaching and learning. Hawkins, Best and Conney (1998) suggest evaluative criteria are the various features or benefit a consumer looks for in response to making a decision and are used in the process by which consumers evaluate and choose among alternatives. According to Yamamoto (2006:561) some of these criteria are reputation, cost, quality, and the awareness and response of the universities to high school students and graduates. Petruzzellis and Romanazzi (2010:141) cite other services provided by the universities such as accommodation, alumni associations and student development, which have become crucial for course selection and successful course completion. However, Donaldson and McNicholas (2004:348) advocate the nature of the courses, location and address, financial considerations, facilities, social climate of the department, programme structure and accreditation as factors that influence a student's choice of institution.

According to Truethardt, Huusko and Saarinen (2006:210) and Ursin et al. (2008:109) evaluation became a key concept in Western European Higher Education in the 1980s when mass take-up of higher education coincided with a decrease in public funding. One of the stated purposes of the Bologna Process in Finland was to create and systemize national and institutional evaluation practices. In Finland, the political atmosphere had transformed as increased accountability was demanded of the universities. Finland was a relatively early player in the systematic evaluation policy

and the first experiments on systematic evaluation were conducted at the beginning of the 1990s (Truethardt et al., 2006:211). Currently, both Finland and Italy have a national higher education evaluation body. The Finnish Higher Education Evaluation Council which was established in 1995 conducts and commissions evaluations of higher education institutions and assists universities in carrying out their own evaluation activities, as prescribed by the Finnish Universities Act. Truethardt et al. (2006:212) note that in Italy, the improvement of university productivity was one of the basic reasons for the introduction of evaluation and quality control programmes. These measures which were established by law both as internal (self-) evaluation and as external (system) evaluation system through a national agency, represent a departure from the tradition of regulation-based evaluation that characterized the Italian public administration in general (Moscati, 2001). A National Centre for the Evaluation of University Performance which was established in Italy in the late 1990s (Moscati, 2006) determines the general criteria for the evaluation of all universities in Italy and draws up an annual report on the evaluation system of higher education. Eurydice (2007) says the Centre promotes experimentation with and implementation of quality assessment procedures, methodologies and practices.

According to the Eurydice report (2007), internal quality assurance in Italy is still being developed. The *participants* (for example, students and academic staff) and *scope* (for example, evaluation practices) of higher education institutions internal quality assurance remain to be specified. Ursin et al. (2008:112) write that in Finland, quality assurance is defined as ‘procedures, systems and processes to foster and enhance the quality of an institution, its educational provision, and other operations’. In Italy, a similar nationwide definition of what is meant by quality assurance in Italian higher education institutions is lacking. However, there have been various reactions to evaluation schemes in Italy. Finocchietti and Capucci (2004) mention that some believe that educational initiatives need to be carried out freely, whereas the supporters of the accreditation model stress the importance of programme accreditation as quality assurance instead of national co-ordination. Harvey and Green (1993:15) in their discussion of the relationship between quality and standards in

higher education identify five fairly distinct yet overlapping perceptions or notions of quality discernible in higher education: quality as exceptional, as perfection or consistency, as fitness for purpose, as value for money, and as transformative. It would seem that the various approaches to quality mentioned by Harvey and Green are generally compatible and even interchangeable rather than mutually exclusive. Green (1994) adds that quality assessment involves the judgement of performance against criteria, either internally or externally. However, Keefe (1992) feels that this would give rise to a potential source of conflict, precisely because quality criteria for education are so difficult to agree on. Another potential problem with quality assessment is that it is usually intended to be mission sensitive (Pearce, 1995). It examines the quality of education provision against the expressed aspirations of the individual institution. Therefore, if the institution has high aspirations, quality in turn will be measured against such a yardstick. According to Tam (2001:50), this might make it more difficult for one specific university to succeed rather than another which has set itself lower aspirations.

Johnes and Taylor (1990) state that if universities are to be evaluated, it is necessary to acquire certain information. This includes firstly, the outputs which universities aim to produce; secondly, the inputs which universities need to produce these outputs, thirdly, quantitative measurements of each university's inputs and outputs, and lastly, the technical relationship between inputs and outputs. Tam (2001:51) asserts that the link between inputs and outputs emanates from a political motive of comparing institutions to estimate what each university could have produced with the inputs available to it. This purpose was made clear in one of the Council for Academic Awards (CNAAs, 1990) discussion papers which claim that among various reasons for the development of performance indicators, there are the intentions to increase accountability and to raise questions about planning intentions and assist in the deployment of resources. It is therefore apt for Johnes and Taylor (1990) to conclude that the purpose of attempting to measure the technical relationship between inputs and outputs in the university sector is actually to provide a benchmark against which each university can be compared.

Despite its promises for greater accountability and benchmarking between institutions, the production model of quality assessment does not apply to higher education since universities produce more than one output. In addition, many of the outputs are differentiated and are difficult or impossible to measure in monetary or even physical units (Cave, Hanney, Henkel, and Kogan, 1988). Johnes and Taylor (1990) identified a further problem with the application of the production model in the university sector. Inputs are regularly used to produce more than one output and there is no apparent way of attributing specific inputs to specific outputs. Tam (2001:51) points out that when the outputs of higher education differ substantially in kind and quality, it would become difficult to substantiate the link between inputs and outputs.

The most critical challenge facing educators is to identify and implement the most appropriate methods for measuring the quality of service in higher education (Ford and Bach, 1997). According to O' Neill and Palmer (2004:40), universities employ a combination of qualitative and quantitative methods to gauge quality of service. Qualitative methods include interviews, focus groups and observation research. Although they are highly subjective, they nonetheless provide an interesting insight into the mind-set of the individual. Quantitative techniques claim to be more objective and measurable. Research into service quality based on the confirm-disconfirmation paradigm has been extensively used (Joseph, Yakhou and Stone, 2005:67). This attempts to investigate the relationship between students' pre-consumption expectations and their perceptions of actual service performance. These models contend that service quality can be conceptualized as the difference between what a student expects to receive and their perceptions of actual delivery. Wells and Prensky (1996) and Oliver (1997) suggest that service performance exceeding some form of standard leads to satisfaction; while performance falling below this standard results in dissatisfaction.

Following is a discussion on the European Foundation for Quality Management model.

2.5.1 EUROPEAN FOUNDATION FOR QUALITY MANAGEMENT (EFQM)

The European Foundation for Quality Management (EFQM) is broadly acknowledged in most parts of the United Kingdom and Europe as significant for improving efficiency and effectiveness of organizations through assessment, benchmarking and business planning. The EFQM Excellence Model is underpinned by the fundamental concept of continuous improvement and by the PLAN, DO, CHECK, ACT cycle of Deming. The institution assesses its performance against the framework of the Model to identify the things it is doing well (strengths) and the things it could improve (areas of improvement). There is also the option to derive the score using the RADAR process. RADAR is an acronym for Results, Approach, Deployment, Assessment and Review. In the Higher Education Funding Council of England (HEFCE) *Benchmarking Methods and Experiences* (2003:9), the RADAR process is explained as “a scoring matrix and an evaluation tool, which assists discipline and consistency in self-assessment”.

In a higher education context, the institution should:

- Identify and quantify the **R**esults it needs to achieve its policies and strategies
- Have sound **A**pproaches to deliver planned results
- **D**eploy the approaches in a systematic way to full implementation
- **A**ssess approaches based on monitoring and measurement of results, including learning
- **R**eview results and identify, prioritize, plan and implement improvements needed.

The EFQM excellence model is said to be a non-prescriptive framework based on nine criteria. Five of these are “Enablers” and four are “Results” (see Figure 2.1) The “Enabler” criteria cover what an organisation does and the “Result” criteria cover what an organisation achieves. “Enablers” cause “Results”. According to Dahlgaard-Park (2008) the model, which recognizes there are many approaches to achieving

sustainable excellence in all aspects of performance, is based on the premise that: “Excellent results with respect to performance, customers, people and society are achieved through leadership driving policy and strategy that is delivered through people, partnerships and resources and process.

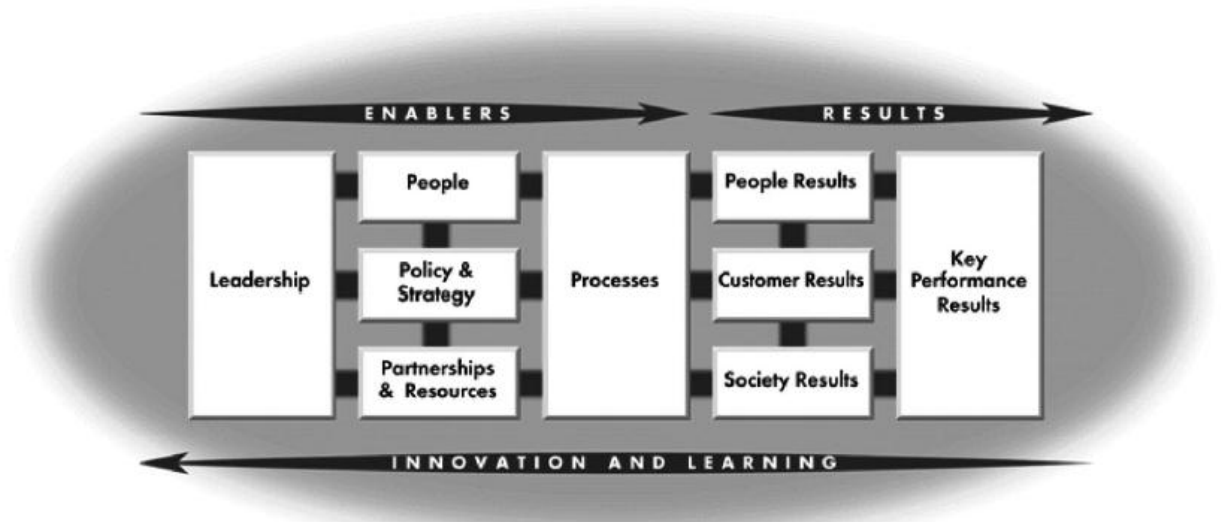


Figure 2.1 The EFQM Model Source: Dahlgaard-Park (2008)

The arrows emphasize the dynamic nature of the model. They show innovation and learning helping to improve enablers that in turn lead to improved results. The Higher Education Funding Council of England’s (HEFCE) current strategic plan describes the EFQM Model as “an internationally recognized framework for high quality management practices”. The HEFCE has funded two projects concerned with the EFQM Model known as the Good Management Project (GMP) 200 and the second is GMP 143. The following section discusses the application of the EFQM and the GMP 200 and GMP 143 projects followed by criticisms of the model.

2.5.1.1 Good Management Project (GMP) 200

The participants in the project were the following institutions of higher learning, *viz.* Bath Spa University College, De Montfort University, The Surrey Institute of Art and Design, University College and Liverpool John Moores University. The aim of the project was to assess the applicability of the EFQM Excellence Model in academic departments. The expected outcomes of the project were to improve management practices, improve performance and produce information for dissemination to the academic sector. Workshops were conducted with academic departments and a six-stage approach was implemented:

- Plan and prepare for self-assessment against the Excellence Model
- Collect views, information and data on where we are now
- Identify strengths and areas for improvement
- Identify the priority opportunities
- Develop and implement actions on these opportunities
- Review and repeat

The majority of the participating staff found the project relevant and useful and that the EFQM Model was applicable to higher education (HEFCE, 2003). Prof Sullivan (2001:4) the project leader and a British Quality Foundation UK award assessor claims that the EFQM Excellence Model is a practical tool, which can assist a university measure where it is in terms of areas for improvement and strengths: it will help people understand the gaps and then stimulate solutions. The model is underpinned by some basic concepts which translate to the context of higher education's core business. They are as follows:

- Students in particular are the final arbiters of service quality. Their loyalty, retention, and a university's market share require a university to have a clear understanding of their needs.
- Excellence is dependent upon balancing and satisfying the needs of students, staff, feeder institutions, parents, government and other stakeholders.

- Leaders at all levels must have a constancy of purpose and create an environment in which all members of a university can excel.
- A university's performance will be more effective when all its processes are understood and systematically managed; and decisions concerning improvement are made using reliable, measurable information.
- The management of continuous learning, innovation, improvement and shared knowledge will help maximize the performance of a university.
- A university works more effectively when its stakeholders and partner relationships are mutually beneficial.
- The long term interest of a university is best served by adopting an ethical approach to society at large.
- Staff will give their best in a culture of trust, involvement and shared values.

A subsequent implementation of the EFQM model was the GMP 143 which built on the lessons learnt from the GMP (200).

2.5.1.2 Good Management Project (GMP) 143

The GMP143 project was run by a consortium known as the UK Consortium for Excellence in Higher Education. It was headed by Sheffield Hallam University and included the Universities of Cranfield, Durham, Salford, Ulster along with Dearne Valley College. According to Pupius and Steed (2002:2) the Consortium was established to evaluate the benefits of applying the EFQM Excellence Model to Higher Education institutions as a strategic tool for performance management and governance, strategic planning, developing key performance indicators for benchmarking, identifying good management practice and the achievement of sustainable improvement in all aspects of performance.

The methodology of the project is presented below. The project consisted of four parts:

- i. Self-assessment projects – there were six self-assessment projects with assessment taking place in a range of areas – schools, academic departments, research institutes, cross college, faculty wide and university wide.
- ii. Mapping and research projects – there were five projects which addressed the relationship, synergy and gaps between the EFQM Excellence Model and other management tools, models, concepts and auditing frameworks that were used within higher education environments.
- iii. Benchmarking projects – there were two benchmarking projects aimed at comparing the work undertaken by the Consortium, with educational institutions internationally that are exemplars of excellence. This would allow the Consortium to develop, enhance and evolve its methodologies.
- iv. Communication projects – there were five communication projects which involved conferences for each year of the three year programme.

Pupius and Steed (2002:3) summarized some of the significant achievements, progress and key learning of the Consortium:

- Whilst accepting the complexity of higher education institutions, the Excellence Model has the potential for significant impact. Management tools such as Investors in People and models such as the Balanced Scorecard and HE/FE auditing frameworks can be used synergistically with the Excellence Model.
- Stakeholder feedback mechanisms such as student and staff experience surveys are a prerequisite for excellence.
- Communication (internal) is a critical process – how and what is communicated is a delicate balance.
- Colleagues naturally want to improve what they are doing – there is real willingness to embrace excellence.

Although the model is relatively complex, it does not encompass all possible variables. A model by its very design is always a simplified and generic version of a reality. Thus it cannot cover all aspects of real situations. In addition, the law of requisite

variety (Morgan, 1986) cautions us that any system's internal complexity and diversity level should correspond or match to the complexity and variety of its environments if the system is to deal with challenges. It is thus obvious that a simple model will not be able to cope with the complexity of a system with a high degree of uncertainty and unpredictability.

Another area of concern with the model is the cause and effect relationship in terms of enabler and results criteria. The model pays little attention to contextual and contingency factors. For example, the right approaches to implementation may vary depending on numerous contingency factors such as organisational size, age, motivation levels of employees, educational background of employees, organisational culture, speed of change in markets and customer demands. Dahlgaard-Park (2008) warns that the inconsistency between intention and practices can be problematic when adopting the model. The inconsistency is observed between leadership intention and the practices (processes), in particular. The culture aspect with reference to value, vision and mission building was explicitly focused under Leadership, while this focus was ignored in policy and strategy, partnership and resources as well as in the process criterion. These inconsistencies seem to be a major defect of the model and may have been the reason for many organisations experiencing problems with the implementation of the model as an overall framework for strategic planning and improvement. Human, political, psychological and other behaviour resistances have to be recognized and thoroughly treated within the frameworks of quality evaluation. Continuously ignoring these aspects will result in continuous high rates of failure. Hence this study attempts to recognize the deficiencies of the EFQM in the development of a suitable model applicable to higher education.

Another popular evaluation tool is the Baldrige National Quality Programme.

2.5.2 BALDRIGE NATIONAL QUALITY PROGRAMME EDUCATION CRITERIA (BNQP)

The Baldrige National Quality Programme (BNQP) is the primary quality programme in the United States of America. It is an education specific model that is endorsed by the United States National Institute of Standards and Technology. The criteria of the BNQP are depicted in figure 2.2 and are designed to assist higher education institutions to use an aligned approach to organisational performance management that results in (NIST, 2004):

- Delivery of ever-improving value to students and stakeholders, contributing to improved education quality.
- Improvement of overall effectiveness and capabilities.
- Organizational and personal learning.

The BNQP provides a systems perspective for managing an institution and its key processes to achieve overall improved performance. The Education Criteria for the Performance Excellence Framework is embedded in seven criteria, *viz.* leadership; strategic planning; customer student/focus, stakeholder and market focus; measurement, analysis and knowledge management; workforce focus/Faculty and Staff focus; process management and results/organisational performance. The organisational profile provides the context for the way the institution operates and organisational performance management guides the strategic challenges, working relationships and environment (NIST, 2004).

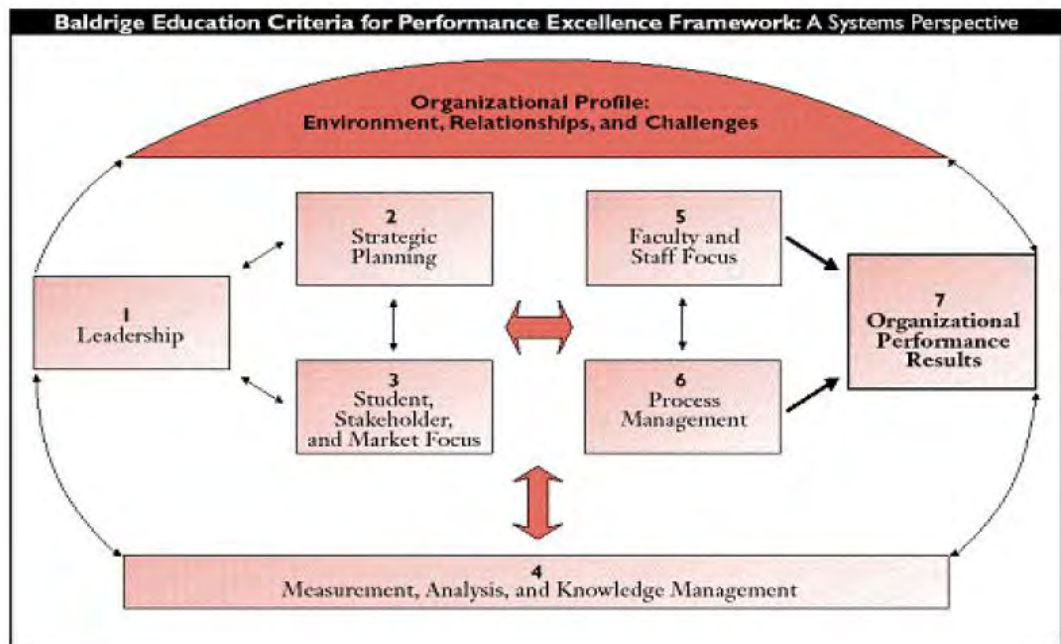


Figure 2.2: National Education Criteria for Performance Excellence Framework

Source: NIST (2004)

2.5.2.1 Criteria of the Baldrige National Quality Programme (BNQP)

US NIST (2004) states that the performance excellence criteria is a framework that any organisation can use to improve overall performance. The criteria of the Baldrige National Quality Programme as depicted in Figure 2.2 are:

- **Organisational profile**

An organisational profile is a snapshot of an organisation influenced by how it operates and the key challenges it faces. Organisations need to know their stated purpose, vision, mission and values within the context of their wider environment. The use of terms such as “purpose”, “vision”, “mission” and “values” varies depending on the organisation, and some organisations may not use one or more of

these terms. However, there should be a clear understanding of the essence of the unit, why it exists, and where the senior leaders want to take it in the future.

- **Leadership**

Leadership addresses how senior leaders of an institution examine values, directions, performance and expectations. Governance and how the organisation addresses its ethical, legal and community responsibilities are also examined.

- **Strategic planning**

Strategic planning assesses how the institution develops strategic objectives and action plans and how they are deployed. The institution's progress in achieving its objective against its strategic plan is then measured.

- **Student, stakeholder and market focus**

This criterion examines the methods used to obtain focus on the student, stakeholders and the market. It determines the requirements, needs and expectations, and preferences of students, stakeholders and markets. The organisation builds relationships with students and stakeholders and this leads to student satisfaction, loyalty, student perseverance, increased educational services and programmes, and organisational sustainability.

- **Measurement, analysis and knowledge management**

Measurement, analysis and knowledge management assess the way in which the institution selects, collects, analyses, manages and improves its data, information and knowledge assets. The institution involved also manages organisation reviews and uses these reviews to improve its performance.

- **Faculty and staff focus**

This criterion examines the way in which the encouragement of staff learning and staff motivation at the institution enable employees to develop and use their full potential to the advantage of the institution's overall objectives and action plans.

- **Process management**

Process management assesses the key processes, work systems and designs. Process management manages and improves the key processes for implementing work systems to deliver student value and achieve organisational success.

- **Organisational performance results**

Organisational performance results examine the institution's performance and improvement in key result areas. They examine student outcomes such as budgetary; financial and market; process effectiveness and leadership. Performance levels are examined relative to those of competitors and other organisations providing similar programmes and services.

The model has been criticized on the grounds that it does not fit service companies very well. Many service organisations believe that the criteria are primarily appropriate for manufacturing organisations. Service companies' lack of success can be justified because service organisations are far behind manufacturing companies in terms of application of quality measures to assessing their services. Two reasons addressing this lag are firstly, that service companies have less exposure to foreign competition than do manufacturing organisations and secondly, that the intangible nature of services makes it more difficult for service organisations to quantify their measures of quality. For example, service organisations have little quantifiable information on how many customers were lost because of dissatisfaction with the quality of their services. This study addresses these criticisms as the suggested framework is applied to an academic department of a university which belongs to the service sector of industry.

The next section discusses the Data Envelopment Analysis as a tool used to gauge efficiencies in an academic department of a university.

2.5.3 DATA ENVELOPMENT ANALYSIS (DEA)

According to Tauer, Fried and Fry (2007:474) it is imperative that academic departments become more efficient in the production and delivery of educational services as public funding becomes more constraining and as high-cost tuition creates increasing concern. A study conducted at Cornell University on measuring efficiencies from 2003 to 2006 looked at the quantities of outputs produced and inputs used in the academic process which was compared with ideal or benchmark performance criteria.

The methodology used by Tauer and colleagues to measure efficiencies of academic departments at Cornell University was the Data Envelopment Analysis (DEA). The DEA was developed by Charnes, Cooper and Rhodes (1978). A comprehensive bibliography listing DEA applications is that of Gattoufi, Oral and Reisman (2002). Worthington (2001) reviews the empirical work on estimating efficiency in education. Many of these studies in education use DEA. Institutions of higher education have been studied (both internally and across institutions) with DEA (eg. Ahn, Charnes, Cooper (1988); Ahn, Arnold, Charnes, Cooper (1989); Johnes and Johnes (1995); Sarafoglou and Haynes (1996); Stern, Mehrez & Barboy, 1994; Tomkins and Green 1988). However, these have not been extensive studies. The DEA is used to obtain measures of technical and allocative efficiencies for individual departments. Arcelus and Coleman (1997), Jenkins (1991), and van de Panne (1991) each used DEA to examine departmental efficiency with a particular university. Although DEA is measured using linear programming, it is inherently defined as the ratio of outputs to inputs (Tauer et al. 2007). As an academic department produces many outputs and uses many inputs in the process, it is necessary to be able to combine these outputs and inputs, and then use the ratio of aggregated outputs to aggregated inputs as a measure

of efficiency. Aggregation requires assigning weights to the various outputs and inputs.

Avkiran (2001:57) analyzing Australian Universities, states that DEA is an appropriate technique to analyze universities because the absence of market mechanisms renders cost functions inappropriate. However, Tauer et al. (2007:474), developed prices based upon assigned allocations of faculty times to various missions, and measured whether individual departments were producing output mixes consistent with allocations. This was undertaken by the maximization of the value of the output given those prices, which was consistent with revenue maximization. Abbott and Doucouliagos (2003:89) also analysed Australian Universities using various specifications of outputs and inputs and found consistent efficiencies. According to Johnes (2006:274), DEA has an advantage over alternative (parametric) methods in that it can be applied to a multiple input multiple output production context. The drawback, however, is that in its basic form, there are no significance tests for comparing models, or for comparing the efficiency scores of individuals or groups of decision making units. Arcelus and Coleman (1997:722) mention that finding an appropriate set of efficiency measures of academic departments is an onerous task at the best of times. In addition, there is a lack of a unifying index of performance in many public decision-making units, such as profit in a private sector institution, and this lack substantially increases the complexity of the problem.

Researchers have implemented an array of techniques including both inferred and direct disconfirmation models. The inferred approach measures expectations and perceptions separately and seeks to estimate the size of any gap between the student's expectations and the actual performance received. This produces a relative measure of how acceptably the service has performed relative to what the consumer expected. Direct disconfirmation measures seek to evaluate student perceptions only, thereby providing an absolute measure of performance. Pre-eminent among these studies has been the work of Parasuraman et al. (1985, 1988) and the development of their SERVQUAL instrument, Cronin and Taylor (1992) and the SERVPERF technique

and Martilla and James (1977) and the importance-performance analysis technique (IPA).

2.5.4 SERVQUAL MODEL

SERVQUAL is based on the understanding that a service is deemed to be of high quality when customers' expectations are verified by subsequent service delivery. SERVQUAL has been extensively researched to validate its psychometric properties and has been applied in a wide variety of industries including higher education (Lewis, 1987; Ryan and Cliff, 1997; Lam and Woo 1997; Green 2006). O' Neill and Palmer (2004) assert that measures of service quality can be derived by subtracting the expectation scores from perception scores, which can also be weighted to take account of the relative importance of each quality dimension. The SERVQUAL technique has attracted considerable attention for its conceptualization of quality measurement issues; it has also attracted significant criticism. A study by Brown et al. (1993) found evidence that a number of psychometric problems arise with the use of SERVQUAL and they recommend the use of non-difference score measures which display better discriminant and nomological validity. Anderson, Narus and van Rossum (2006:5) and Iacobucci, Ostrom and Grayson (1995:280) suggest that expectations may not exist or be clear enough in respondents' minds to act as a benchmark against which perceptions are assessed. There has also been debate surrounding the practicalities of administering the instrument. Other researchers have suggested better wording for some of the scale items (Bolton and Drew, 1991). It has been found that respondents find it difficult to differentiate between the scale items, particularly when "negative forms of questions are used" (Hope and Muhlemann 1997).

A recent study conducted by Zakaria, Ahmad and Norzaidi (2009) utilized the SERVQUAL model at a Malaysian university to address three research objectives. Firstly, they sought to identify the gap between the services expected by the students of the Business Administration Faculty and the actual services experienced by them. Secondly, they wished to evaluate the level of satisfaction towards the physical

facilities and services offered by the teaching staff at the Faculty of Business Administration at Universiti Teknologi MARA's (UiTM) Tegengganu and thirdly, wished to determine the relationship between the gaps of the items in the service quality dimensions and the students' average satisfaction level. The overall findings represented a universal phenomenon as suggested by previous literature. The Paired Sample *t*-test was chosen for the first analysis. The results of the Paired Sample *t*-test revealed that the perceptions of service received by the students were lower than their expectations of all the elements of the service quality dimensions. Furthermore, the gaps were significant at the 95% confidence level. The general satisfaction level towards the physical facilities and services indicated that, on average, the students were satisfied with the services they had received. A correlation analysis was performed between the general satisfactions and the means gaps (perceptions minus expectations) for the service quality items used in the questionnaire. Results of the test indicated that there was a positive and linear relationship between the gaps and the Mean satisfaction level of the students in the Business Faculty at UiTM Terengganu. This was evident by the significant value of less than 0,05 which indicated that as the gaps became more positive (Perception higher than Expectation), the satisfaction level would also increase. Through the understanding of these relationships, important insights were provided into the university administration in terms of identifying strategies that would enhance the quality services within their organization.

2.5.5 SERVPERF AND HIGHER EDUCATION PERFORMANCE MODEL

The shortcomings of the SERVQUAL model led many researchers to believe that a more direct approach to the measurement of service quality is required. Many consider that performance-only-based measures of service quality may be an improved means of measuring the service quality construct (Bolton and Drew, 1991; Cronin and Taylor, 1992). This recognition led to the development and application of more direct forms of measurement technique such as SERVPERF. SERVPERF was developed by Cronin and Taylor (1992). This technique uses the original SERVQUAL scale items and also requires the respondent to rate a provider's performance on a Likert scale

extending from “strongly disagree” to “strongly agree”. In comparison to SERVQUAL, SERVPERF does not take into account customer expectations and only utilizes the perceptions of service performance. Therefore, this model does not have a disconfirmation scale, which is the gap between expectations and perceived performance of service. The five domains – tangibles, reliability, responsiveness, assurance and empathy identified in the SERVQUAL model are equally applicable to the SERVPERF model. This model also overcomes the problems raised regarding SERVQUAL, namely, raising expectations, administration of the two parts of the questionnaire and the statistical properties of difference scores (Hope and Muhlemann, 1997). White, Abels and Nitecki (1994) argue that the SERVQUAL model is more attractive than SERVPERF as it is more comprehensive and provides better diagnostic information. However, O’Neill and Palmer (2004:40) feel that from an operational point of view much useful information is lost when performance only measures are taken. Nevertheless, SERVPERF explains more of the variation in customer perceptions of service quality than SERVQUAL, as measured by R^2 statistics. R^2 can be obtained by regression analysis, wherein the single item overall service quality measure is the dependent attribute, and the deduced five domains are the independent attributes.

Based on the fundamentals of the SERVPERF framework, the Higher Education Performance (HEdPerf) model was developed. Firdaus (2005) proposed the HEdPERF framework, a comprehensive performance-based measuring scale in an attempt to capture the authentic determinants of service quality within higher education. The measuring instrument has 41-items that have been empirically tested for unidimensionality, reliability and validity using both exploratory and confirmatory factor analysis. A highly mandatory condition for construct validity and reliability checking is the unidimensionality of the measure, which is referred to as the existence of a construct/trait underlying a set of measures (Hattie, 1985; Anderson and Gerbing, 1991). The purpose of assessing a model’s overall fit is to determine the degree to which the model is consistent with the empirical data at hand. The goodness-of-fit index (GFI), which is an indicator of the relevant number of variances and covariances

accounted for by the model, is considered as the most reliable measure of absolute fit in most circumstances (Diamantopoulos and Siguaw, 2000). A criticism was that both the SERVPERF and the HEdPerf scales showed a poor overall fit assessment.

Firdaus (2005:305) indicates that the dimensions of the SERVPERF model have low reliability scores. This reliability of scales indicates the stability and consistency with which the instrument measures the concept. In an assessment of the degree of criterion and construct validity, the criterion and construct validity coefficients were 0.27 and 0.34 respectively for the SERVPERF scale. This result indicated inferior validity coefficients compared to the HEdPERF scale which were 0.58 and 0.57 respectively. Firdaus (2005:307) indicates that although SERVPERF was developed to measure service quality in a wide range of service industries, it did not provide a better perspective for higher education. Based on these weaknesses and gaps identified in the literature, this study proposes to develop a cohesive framework for evaluation of service quality in higher education.

The literature in the field draws our attention to another popular evaluation framework used to assess service quality in higher education, that is, the Importance-Performance Analysis.

2.5.6 IMPORTANCE-PERFORMANCE ANALYSIS (IPA)

Another more direct disconfirmation approach is the importance-performance analysis (IPA) technique, which emerged from the earlier work of Martilla and James (1977). The IPA technique has gained popularity over recent years for its simplicity, ease of application and diagnostic value (Guadagnolo, 1985; Ortinua, Bush, Bush and Tweeble, 1989; Joseph and Joseph, 1997; Ford, Joseph & Joseph, 1999). Unlike SERVQUAL, the IPA technique is best described as an absolute performance measure of customer perceptions. This technique also seeks to identify the underlying importance ascribed by consumers to the various quality criteria being assessed. In other words, importance is viewed as a reflection of the relative value of the various

quality attributes to consumers. According to O'Neill and Palmer (2004:42) it is this additional information which makes the technique more suited to the task of directing improvement based on what is deemed most important by consumers. Barsky (1995) believes lower importance ratings are likely to play a lesser role in affecting overall perceptions, while higher importance ratings are likely to play a more critical role in determining customer satisfactions. The objective is to identify which attributes or combinations are more influential in repeat purchase or referral behavior and which have less impact. The information derived should prove invaluable in terms of the development of marketing strategies for the organizations that use it (Ford et al. 1999). This view is confirmed by Lovelock, Patterson and Walker (1998:150) who state that the importance-performance technique is an especially useful management tool helping to "direct scarce resources to areas where performance improvement is likely to have the most effect on overall customer satisfaction". The IPA technique also has the advantage of identifying which service attributes should be maintained at present levels and those on which significant improvement will have little impact. However, a number of issues need to be addressed prior to the application of the technique. The first is "the determination of the actual attributes to be assessed" (Joseph and Joseph, 1997:16). Lovelock, Patterson and Walker (2001) differentiate here between determinant and important attributes for consumers and these issues need to be teased out carefully during the exploratory stages of any project. The second is the issue of bias and the separation of the performance and importance scales. Oh and Parks (1998:36) raise the issue of confusion among researchers between the concepts of importance and expectation, with a number of studies using the two concepts interchangeably when measuring and interpreting importance.

2.5.7 THE BALANCED SCORECARD

The Balanced Scorecard (BSC) was developed by Kaplan and Norton (1992) as a prescriptive framework aimed at translating the vision and strategy of an organization into objectives. The BSC provides answers to four basic questions:

- How do customers see us? (customer perspective)

- What must we excel at? (internal perspective)
- Can we continue to improve and create value? (innovation and learning perspective)
- How do we look to shareholders? (financial perspective)

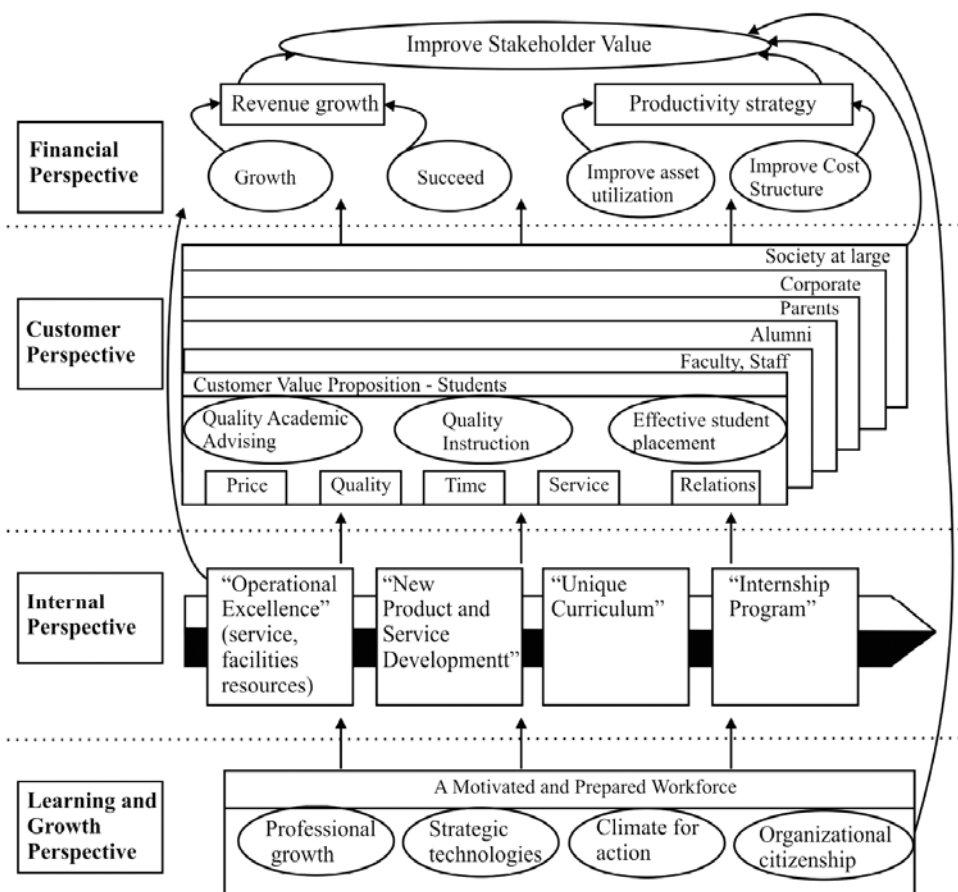
Apart from financial measurement, which is the essence of the BSC, it also emphasizes the role of the customer; internal processes; and innovation and learning. Another important characteristic of the model is that it can be set up to focus attention on internal and external matters of the organization. Consequently, the BSC embraces the idea of competitor benchmarking. A key aspect of the balanced scorecard is that the performance measures must be linked to the strategy the organization is following and not just be created as an unrelated group of financial and non-financial measures. Kaplan and Norton (1996) emphasize that the scorecard is a management system aimed at streamlining and focusing strategy in a way that can lead to breakthrough competitive performance. Cullen, Joyce, Hassall and Broadbent (2003) mention that performance measurement goes beyond the monitoring of performance towards a much more proactive role in the management of an organization. Kaplan and Norton (2001:170) then took this management notion further with their introduction of the concept of a strategy map that they describe as:

“A strategy map enables an organization to describe and illustrate, in clear and general language, its objectives, initiatives, and targets; the measures used to assess its performance; and the linkages that are the foundation for strategic direction”.

They suggest that the strategy map entrenches the different items on an organization’s balanced scorecard into a cause-and-effect chain, which connects desired outcomes with the drivers of those results, and they have introduced the strategy map into various industries, including higher education.

According to Karathanos and Karathanos (2005:222) it is evident that the BSC has been widely adopted in the business sector but the education sector has not embraced the BSC framework widely as indicated by the dearth of published research on this

topic. Cullen et al. (2003:1) proposed that BSC be used in educational institutions for reinforcement of the importance of managing rather than just monitoring performance. Sutherland (2000) as cited in Umashankar and Dutta (2007:55) reported that the Rossier School of Education at the University of Southern California adopted the BSC to assess its academic programme and planning process. In addition, Chang and Chow (1999) reported a survey of 69 accounting department heads that were generally supportive of the BSC applicability and benefits to accounting education programmes.



Source: Based on Kaplan and Norton (2001)

Figure 2.3: Proposed Balanced scorecard model for institutions of higher learning

Figure 2.3 is a schematic model of the BSC for institutions of higher education in India, based on the model designed by Kaplan and Norton (2001). The results of the study undertaken by Umashankar and Dutta (2007) indicate that the benefits outlined by Kaplan and Norton (1996) of the BSC framework are relevant in the context of the

institutions of higher learning in India. These benefits include clarifying and updating vision and strategic direction; communicating strategic objectives and measures throughout the organization; aligning department and individual goals with the organisation's vision and strategy; linking strategic objectives to long term targets and annual budgets; identifying and aligning strategic initiatives; conducting periodic performance reviews to learn about and improve strategy; and obtaining feedback to learn about and improve strategy (Kaplan and Norton, 1996).

2.6 EVALUATION PRACTICES IN SOUTH AFRICA

Gibbons (1998) asserts that the introduction of quality assurance systems across the world is to a large extent the result of greater demands for accountability of both public and private institutions. Research indicates that the main motivators for the establishment of quality assurance systems internationally appear to be the massification of higher education; accountability from a value for money perspective; the internationalization of qualifications; the increased mobility of staff and students; matching programmes to labour and employment needs; the rise of private education and indirect steering of higher education by governments (Griesel, Strydom and Van der Westhuizen, 2002, Maharasoa, Strydom and Van der Westhuizen, 2002). In response to these challenges, countries all over the world have developed quality assurance systems and South Africa is no exception.

The legislative framework in South Africa and the broader challenges of market competition have placed pressure on institutions of higher education to devise innovative ways of managing what have become diverse and very complex institutions. The South African higher education sector, post 1994, has been faced with various challenges. One of the issues has been the focus on quality as emphasized by Professor Kader Asmal, former Minister of Education in the Foreword to the National Plan on Higher Education 2001: *“The people of our country deserve nothing less than a quality higher education system which responds to the equity and development challenges that are critical to improving the quality of life of all our*

people.” Mhlanga (2008) believes there is an apparent thrust by many universities in terms of quality assurance of academic programmes offered as well as the delivery processes of these programmes.

Consequently, quality assurance activities involving the development of explicit quality assurance policies, the establishment of quality assurance structures and the regular evaluation of institutional performance are common features in South African higher education (Ferreira, 2003; Mhlanga, 2008). Development of quality assurance policies are being undertaken at national and institutional level. A key development at national level has been the establishment of national quality assurance agencies that monitor, evaluate and promote quality in tertiary institutions through national regulating policy and regular site visits to tertiary institutions. There is an emerging tendency for institutions to be accountable to external stakeholders for their performance.

2.6.1 HIGHER EDUCATION QUALITY COMMITTEE (HEQC)

One of the objectives of the South African Higher Education Act of 1997 is to provide for quality assurance and quality promotion in higher education. Consequently, it made provision for the establishment of the Council for Higher Education (CHE), an independent statutory body to assume executive responsibility for quality assurance within higher education and training in South Africa. This includes programme accreditation, institutional audits, programme evaluation and quality promotion and capacity building. The CHE also monitors and evaluates whether, how, to what extent and with what consequences the vision, policy, goals and objectives for higher education are being realized, including reporting on the state of South African higher education (CHE, 2003). According to Singh (2001) to address the need for direction, responsibility for quality assurance was assigned to the Higher Education Quality Committee (HEQC), which was constituted in March 2001.

The HEQC, which is a permanent committee of the CHE, is concerned with strategic and conceptual issues of quality in higher education, and is responsible for programme accreditation, quality promotion and institutional auditing (Baijnath and Singh, 2001). The HEQC has four directorates, *viz.* Institutional Audits Directorate, National Reviews Directorate, Programme Accreditation Directorate and the Quality Promotion and Capacity Development Directorate. The Institutional Audits directorate is responsible for conducting audits of public and private higher education institutions' systems for ensuring good quality of provision in three core functions of teaching and learning, research and community engagement. The National Reviews directorate re-accredits existing programmes in specific disciplines and/or qualification areas. The Programme Accreditation directorate accredits the learning programmes of public and private higher education institutions. The Quality Promotion and Capacity Development directorate is responsible for implementing the HEQC's quality promotion and capacity development programme which disseminates information and knowledge about quality assurance, and prepares individuals and institutions to participate in implementing the HEQC's quality assurance system (CHE, 2003).

Some of the lessons learnt in South Africa highlight some of the challenges faced by institutions of higher learning regarding the implementation of quality assurance. Wilkinson (2002) in her analysis of several South African case studies found some common lessons.

1. The implementation of an institutional quality management system is a slow and demanding undertaking. The implementation of quality assurance systems takes several 'cycles' to enable a system to mature within an institution. The process of bringing reluctant staff on board as part of developing a comprehensive system is challenging.
2. The institutional and operational quality management should form an integral part of the strategic planning and management of the institution (Wilkinson, 2002). Experience from several institutions indicates that quality assurance will not be

successful if there is no systematic implementation plan for the quality assurance system at the institution. Ad hoc implementation of quality assurance outside general planning and management procedures is not successful. Leadership support for quality assurance is also critical to create a learning orientated culture which can lead to progressive and adaptive planning processes that respond to the dynamic demands of higher education (de Haan, Hummels, Claeseen, 1999; Newton, 1999).

3. Information received from management should be adequate to inform the judgements in an institutional quality management system. Correct quantitative and qualitative data about institutional practice is essential for effective quality assurance. According to Kulati and Mosdell (1996), this data is used for critical analysis and the improvement of current practices in various areas.

4. The transformation of academic culture is perceived as the biggest challenge and requires well-planned staff-development action. Webstock (2002) believes that in the South African context, transformation has been made harder by disillusionment with recent changes in the higher education sector that have not been successful. Staff buy-in is vital if quality assurance is going to succeed as this is where the real change happens. To quote Kistan (2002:98): *“policies come and go without perturbing the institution; change happens in the trenches where faculty and students are engaged in the primary activities of the university, teaching and research.”*

5. Ownership of the process of quality assurance can be enhanced by well-designed self-evaluation mechanisms. Ownership of the quality assurance process is indispensable for the success of quality assurance. There are several case studies in the South African context that suggest establishing a quality assurance system based on critical self-evaluation has a greater chance of success. Strydom, Zulu and Murray (2004) believe that to establish this culture of self-evaluation it is important to orientate staff about the importance of self-evaluation and to support the system with constructive and developmental feedback.

6. The uniqueness of flexi- and dual-mode education needs to be addressed. Distance and open learning is creating a change in higher education provision. These different modes of provision require quality assurance processes that evaluate product (course materials), processes (teaching and learning processes), assessment procedures, support systems, library and information technology resources and academic staff training (Swift and Morejele, 1996; Brink and Singh, 2002).

Finally, human, physical and financial resources are costly but critical factors in an institutional quality management system. Institutions need to invest in the staff, infrastructure and finances required for an effective system. Duderstadt (2000) posits that a quality assurance system can, however, help to reduce costs by reviewing and eliminating activities that do not meet customer needs; helping to eliminate waste in any work processes; allowing certain services to compete in an open market and by using international benchmarks for critical activities in an institution.

2.6.2 SOUTH AFRICAN EXCELLENCE MODEL (SAEM)

The SAEM was developed by the South African Excellence Foundation (SAEF) in 1997, and builds on the experience of the Malcolm Baldrige National Quality Assurance (MBNQA, USA) and the European Foundation for Quality Management (EFQM, EU). According to Williams (2008) the SAEM was established to help South African organizations assess their levels of efficiency and effectiveness, identify business areas that need improvement, and institute significant performance improvements to achieve higher levels of competitiveness in the global marketplace.

Ferreira (2003) states that the SAEM combines the best of the respective evaluation models and incorporates a local emphasis in accordance with national priorities. The model provides a non-prescriptive framework for management of education, self-assessment and continuous improvement for all organizations. The model, as depicted in Figure 2.4, consists of eleven criteria, 6 enablers and 5 results criteria which apply to all organizations. The model was developed to support management in accelerating the process of making quality a decisive influence for achieving global competitive advantage. The criteria are designed to help organizations enhance their competitiveness through focus on results-orientated goals.

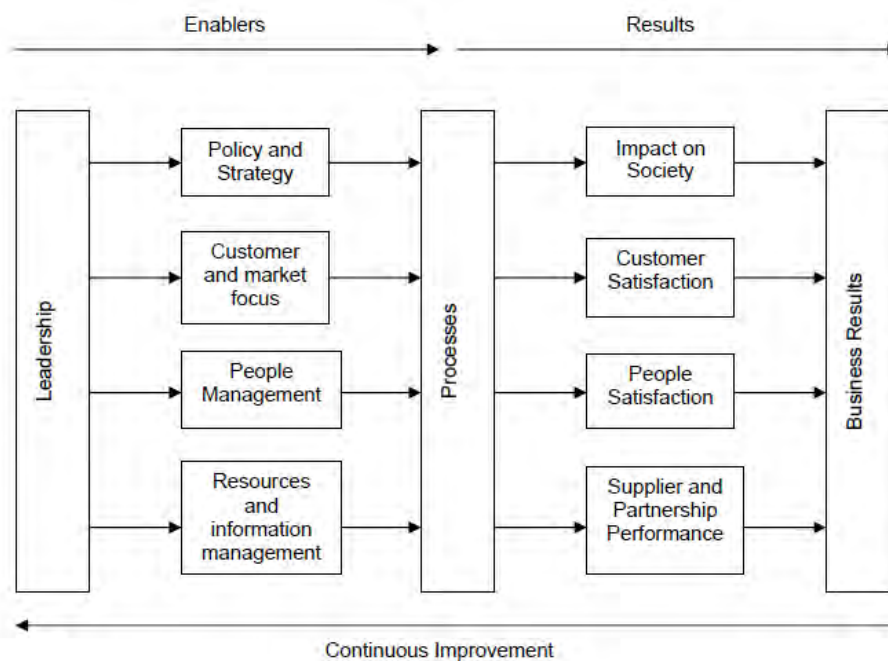


Figure 2.4 The South African Excellence Framework (Source: IRCA, 2004)

The criteria are built upon a set of core values and concepts which form the basis for integrating key business requirements. The core values and concepts include:

- Customer focus/customer driven quality
- Leadership - creating strategies and setting direction
- Continuous improvement and learning
- Employee participation

- Process management
- Management by fact
- Role model leadership
- Partnership development

(IRCA, 2004)

The premise of the model is that customer satisfaction and people (employee) satisfaction, impact on society and supplier and partnership performance are achieved through leadership that drives policy and strategy, customer and market focus, people management, resource and information management and processes to achieve business results.

The enablers as mentioned earlier are *leadership* elements which address how the behavior of executive management and influential leaders inspire, support and drive a culture of business excellence. The *policy and strategy* elements examine the formulation, deployment and revision of organizational policy, objectives, vision, values and strategy into plans and actions.

The *People management* element which concentrates on the organization's development of its employees, examines the development of skills, the recognition of improvement opportunities and the empowerment of people. The *Customer and market focus* addresses how organizations determine the needs, expectations and satisfaction of their customers and markets.

Resources and information management focuses on the effective and efficient management and usage of the organization's resources and information. The *processes* criterion addresses the way an organization administers reviews and improves its operating processes.

The second component of the model concentrates on tracking the organization's achievement of its objectives by looking at what the organization measures, the goals

it sets and how it compares with other organizations. It consists of five elements which include:

- Impact on society – this includes the organization’s involvement in the local community and what the organization is achieving in satisfying the needs and expectations of the regional, national and international community.
- Customer satisfaction – referring to customers’ perceptions of the organization’s products and services, customer relations and how this is achieved and managed.
- People satisfaction addresses the organization’s achievement and measurement of people satisfaction and the people’s perceptions of the organization.
- Supplier and partnership performance looks at the organization’s measurement of supplier and partnership processes as well as the organization’s perception of supplier and partner products, services and relationships.
- Business Results addresses the organization’s achievement and measurement of its planned business and financial objectives and whether it is satisfying the needs and expectations of everyone with a financial interest in the organization.

(Strydom, 2002)

Figure 2.4 also highlights the relationship between the various criteria of the model. For example, people management will have an impact on employee satisfaction; policy and strategy will impact on society as well as on the business results; customer and market focus will impact on customer satisfaction. Having examined the various practices of evaluation both internationally and nationally, it is important to understand service quality and the determinants of service quality. Bouwers (1997:265) states service quality has emerged as a pervasive strategic force and a key strategic issue on management’s agenda. It is not surprising that practitioners and

academics are interested in accurately measuring service quality in order to improve understanding of its essential antecedents and consequences, and ultimately, to establish methods for improving quality to achieve competitive advantage and build customer loyalty (Bitner, 1993).

2.7 SERVICE QUALITY

According to Parasuraman et al. (2005) there is a distinct set of service quality criteria which can be applied for support systems during evaluations. Service Quality is a concept that has aroused considerable interest and debate in the research literature because of the difficulties in both defining it and measuring it, and with no overall consensus emerging on either (Wisniewski, 2001:384). There are a number of different definitions of what is meant by service quality.

Service quality is important for the following reasons:

- Strategic plans should include goals and actions of service quality plans.
- Critical service quality criteria are identified for each support unit and key customer.
- Service quality criteria can be used as benchmarks of good practice.
- A formalized process for corrective and preventative action is developed.

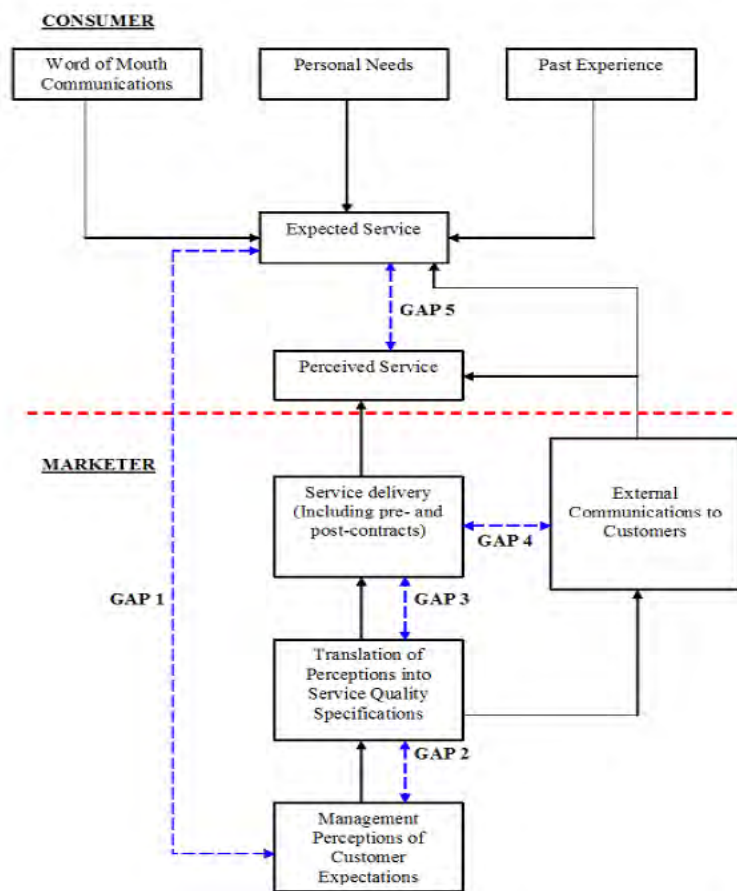
The evaluations undertaken during audit processes determine whether service quality is of an acceptable standard. Service quality is defined as the difference between customer expectations of service and perceived service. If expectations are greater than performance, then perceived quality is less than satisfactory and hence customer dissatisfaction occurs (Parasuraman, Zeithmal, and Berry 1994; Lewis and Mitchell, 1990).

Grönroos, (2008:298) supports the notion that service quality as perceived by customers stems from a comparison of what they feel that service organisations should offer (i.e. from their expectations) with their perceptions of the performance of

organisations providing the service. Customers' perceptions depend on their comparison of their prior quality and productivity depends not only on the performance of the service provider's personnel, but also on the performance of the customer. This gap between the customers expectation of the quality of the service and the perceived quality of the service received can be explained by the Gaps Model.

2.7.1 THE GAP MODEL

Zeithaml, Bitner, and Gremler (2006) state that customer expectations are standards or reference points that customers bring into the service experience, whereas customer perceptions are subjective assessments of actual service experiences. Customer expectations often consist of what a customer believes should or will happen. Zeithaml and Bitner (2003:124) explain customer satisfaction as the degree of fit between customers' expectations of service quality and the quality of the service as perceived by the customer. Zeithaml and Bitner (2003) also emphasise the importance for organisations to understand the gaps that exist in the delivery of their service in order for them to understand what hinders them from providing a better-quality of service to their customers.



Source: Parasuraman, Zeithaml and Berry (1985: 44)

Figure 2.5 GAP Model of Service Quality

The GAP model identifies five gaps where there may be a shortfall between expectation of service levels and perception of actual service delivery (Palmer 2001). Although not prescriptive in nature due to the wide differences in service offerings and the equally broad variation across time and providers, the GAP model does offer a useful generic tool for analysis. Li, Tan, and Xie (2003) argue that the GAP model provides management and employees with a framework to establish the gaps in how a service is designed and operated. The following figure shows the GAPs model of service quality.

Gap 1: Consumer expectation - Management Perception Gap

Zeithaml et al. (2006); Gabbott and Hogg (1998) and Wahid (2001:paragraph 2) declare that gap 1 is the difference between customer expectations of service and the company's understanding of those expectations. Zeithaml et al. (2006) claim that a primary cause in many firms for not meeting customers' expectations is that the firm lacks accurate understanding of exactly what those expectations are.

Zeithaml and Bitner (2003) explain that in order to close or reduce the size of Gap 1, companies need to establish what is and is not acceptable to the customer in broad terms by conducting sufficient market research. They further state that this research can be done through listening to customer complaints, finding out what customers want in similar industries, researching intermediate customers, conducting key-client studies, and conducting customer expectation and satisfaction surveys.

Gap 2: Management Perception – Service Quality Specification Gap

Gap 2 is the difference between management's perception of consumer expectations and service quality specifications (Zeithaml et al., 2006; Gabbott and Hogg, 1998 and Wahid, 2001:paragraph 10). This is the difference between the organisation's quality specifications and management's perceptions of consumer expectations of the service and its quality. Zeithaml and Bitner (2003) argue that management may be aware of critical consumer expectations but a variety of factors such as resource constraints, market conditions, and/or management indifference might prevent them from setting specifications to meet those expectations.

Zeithaml and Bitner (2003) state that in order to close Gap 2, management must be committed to service quality. They further mention that this commitment can be shown through "leading by example", by developing quality policies that set the service standards, providing training to improve employee skills that are necessary for

enhancing service quality and by standardising tasks so that the outcome of the service is uniform and consistent.

Gap 3: Service Quality Specifications – Service Delivery Gap

Gap 3 is the difference between the service quality specifications and the delivery of those specifications to the customer (Zeithaml et al., 2006; Gabbott and Hogg, 1998 and Wahid, 2001:paragraph 15). Unforeseen problems or poor management can lead to a service provider failing to meet service quality specifications. This may be due to human error but also mechanical breakdown. Dean (2004) suggests that manuals and well-communicated standards are not enough to guarantee excellent service.

Zeithaml and Bitner (2003) report that the causes of Gap 3 could be employee role ambiguity, role conflict, poor employee-job fit, poor technology-job fit, inappropriate supervisory control systems, lack of perceived control and lack of teamwork. Wahid (2001:paragraph 17) states that in order to close the gap, resources in the form of people, systems and appropriate technology also need to be in place and adequately monitored. Contact personnel must be properly trained, motivated, measured and compensated according to service delivery standards.

Gap 4: Service Delivery – External Communication Gap

Gap 4 is the difference between service delivery and external communication (Zeithaml et al., 2006; Gabbott and Hogg, 1998:5; Wahid, 2001:paragraph 20 and Zeithaml and Bitner, (2003). Zeithaml and Bitner (2003) suggest that the causes of Gap 4 are poor inter-department communication, differences in policies and procedures between branches or departments, and a tendency by marketing people to over-promise. There may be dissatisfaction with service due to the excessively heightened expectations developed through the service provider's communications efforts. Dissatisfaction tends to occur where actual delivery does not meet up to expectations held out in a company's communications. Failure to deliver can result

from inaccurate marketing communications, lack of or poor coordination between marketing and delivery personnel and over-promising (Zeithaml et al., 2006).

Wahid (2001:paragraph 23) indicates that the strategies for reducing Gap 4 include increasing horizontal communication by opening the channels of communication between marketing/sales, human resources, and operations so as to enhance understanding between the relevant departments. Zeithaml and Bitner (2003) suggest that in order to avoid over-promising, companies should develop communications that deal with the quality dimensions and features that are most important to customers; they should accurately reflect what customers actually receive in the service encounter; and assist customers in understanding their roles in performing the service.

Gap 5: Expected Service – Experienced Service

Zeithaml et al. (2006), Gabbott and Hogg (1998), Wahid (2001:paragraph 20), Coupe (2002:paragraph 3) and Zeithaml and Bitner (2006) declare that Gap 5 is the most crucial since it indicates the difference between expected and perceived service quality. Zeithaml and Bitner (2006) explain that customer perceptions are the subjective assessments of the customers' actual service experiences and that customer expectations are the benchmarks against which service experiences are compared. Wahid (2001:paragraph 33) indicates that by understanding the factors which influence the gaps between expected and perceived service, companies can take action to reduce the difference between perceived and expected quality so that customer satisfaction is enhanced.

2.7.2 MANAGING CUSTOMER EXPECTATIONS

It follows that customer satisfaction is a function of customer expectations. Customer expectations are beliefs about service delivery that function as standards or reference points against which performance is judged (Zeithaml and Bitner, 2003). Knowledge about customer expectations is critical to service marketers because customers

compare their perceptions of performance with these reference points while evaluating service quality. Zeithaml and Bitner (2003) advocate that customers hold different types of expectations about services and they usually fall into two levels:

- *Desired Service*

According to Zeithaml and Bitner (2003), the desired level of service is the first level of service that the customer expects to receive and is basically the service that the customer hopes to receive.

- *Adequate Service*

This is the second level of service and is the minimum level of service that the customer is willing to accept (Zeithaml and Bitner, 2003 and Dion, Valgi and Dilorenzo-Aiss, 1988). Zeithaml and Bitner (2003) declare that customers assess service quality on the basis of what they desire and what they deem acceptable, i.e. customers have dual expectation levels. The latter criterion suggests that customers' tolerance levels influence their assessment of service quality.

2.7.3 ZONES OF CUSTOMER TOLERANCE

Palmer (2001) suggests that zones of tolerance may exist in consumers' perceptions of service quality. If perceptions fall below the desired level of service, this may still be acceptable provided it does not fall below expectations based on the minimum acceptable level of service. The figure below represents the adequate and desired levels of service as well as the zones of tolerance.

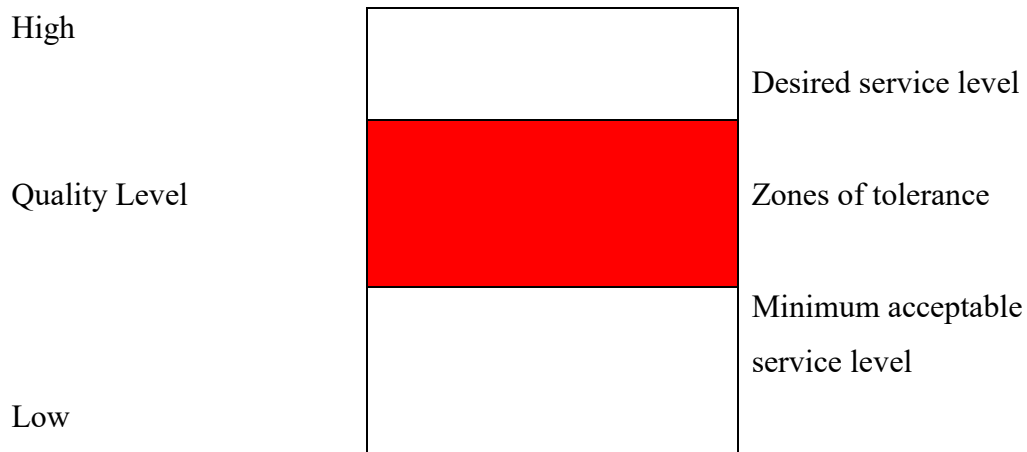


Figure 2.6: Customers' zones of tolerance for service quality

Source: Palmer (2001:227)

Zeithaml and Bitner (2003) and Walker and Baker (2000) state that if service drops below the minimum acceptable level, then the customer's satisfaction with the company will be impaired and if the service performance exceeds the desired service level then the customer will be pleasantly surprised.

Tolerance zones vary between individuals (and companies), service aspects, and with experience and tend to be higher for outcome than for process dimensions of service (Zeithaml and Bitner, 2003). In addition, if options are limited or non-existent (e.g. choice of general practitioner services, rail and airplane routes) desires may not decrease but tolerance zones/levels may be higher (Lewis, 1987). Conversely, if many alternatives are available, it is easy to switch and tolerance zones are more limited (Palmer, 2001). Service quality given its subjective nature and the various factors that may influence it, is not easily gauged.

2.7.4 MEASURING SERVICE QUALITY

Kang, James, and Alexandris (2002), Robinson (1999), Asubonteng, McCleary, and Swan, (1996) and Kurtz and Clow (1998) state that the most popular measure of service quality is SERVQUAL, a model developed by Parasuraman et al. in 1994.

Parasuraman et al. (1994) advocate that the SERVQUAL model which was founded on the GAP model was designed to measure service quality as perceived by the customer and was developed as a result of insights obtained from interviews with executives and focus groups from selected services.

Measurement allows for comparison before and after changes, for the location of quality related problems and for the establishment of clear standards for service delivery (Kurtz and Clow, 1998). Edvardsen, Tomasson, and Ovretveit (1994) state that the starting point in developing quality in services is analysis and measurement. The test instrument is based on the premise that service quality is the difference between customers' expectations and their evaluation of the service they received. The instrument consisted of 22 statements divided along the 10 dimensions listed below, with a seven-point answer scale accompanying each statement to test the strength of relations (Zeithaml et al., 2003).

The first part of the questionnaire asks customers to indicate the level of service they would expect from a firm in a particular industry. The second part of the questionnaire asks customers to evaluate the service performed by a specific service firm. According to Kurtz and Clow (1998:66) the level of service quality is determined by subtracting the perceived service score from the customer's expectation score for each of the questions. These service quality determinants are discussed in the following table.

Table 2.1 Determinants of Service Quality

| |
|--|
| <p>RELIABILITY involves consistency of performance and dependability. It means that the firm performs the service right the first time. It also means that the firm honours its promises. Specifically, it involves accuracy in billing, keeping records correctly and performing the service at the designated time.</p> |
|--|

| |
|--|
| <p>RESPONSIVENESS involves the willingness or readiness of employees to provide service. It involves timeliness of services in mailing a transaction slip</p> |
|--|

immediately, calling the customer back quickly and giving prompt service (e.g. setting up appointments quickly).

COMPETENCE means possession of the required skills and knowledge to perform the service. It involves knowledge and skills of the contact personnel, knowledge and skill of operational support personnel and research capabilities of the organisation.

ACCESS involves approachability and ease of contact. It means the service is easily accessible by telephone, waiting time to receive service is not extensive, and that there are convenient hours of operation and convenient location of service facilities.

COURTESY involves politeness, respect, consideration and friendliness of contact personnel (including receptionists, telephone operators, etc.). It includes consideration for the consumer's property and the clean and neat appearance of public contact personnel.

COMMUNICATION means keeping customers informed in language they can understand and listening to them. It may mean that the company has to adjust its language for different consumers – increasing the level of sophistication with a well-educated customer and speaking simply and plainly with a novice. It involves explaining the service itself, explaining how much the service will cost, explaining the trade-offs between service and cost and assuring the consumer that a problem will be handled.

CREDIBILITY involves trustworthiness, believability, and honesty. It involves having the customer's best interests at heart. Contributing to credibility are things like company name, company reputation and personal characteristics of the contact personnel.

SECURITY is the freedom from danger, risk or doubt. It involves physical safety, financial security and confidentiality.

UNDERSTANDING/KNOWING THE CUSTOMER involves making the effort to understand the customer's needs. It involves learning the customer's specific requirements, providing individualised attention and recognising the regular customer.

TANGIBLES includes the physical evidence of the service:

- Physical facilities.
- Appearance of personnel.
- Tools or equipment used to provide the service.
- Physical representation of the service, plastic credit cards or a bank statement.
- Other customers in the service facility.

Source: Parasuraman et al. (1985:47)

Parasuraman et al. (1988) refined and condensed the initial SERVQUAL instrument through several stages of data collection and analysis.

Kurtz and Clow (1998:66) state that consumers evaluate five dimensions of service quality. These dimensions include tangibles, reliability, responsiveness, assurance, and empathy. Tangibles include the service provider's physical facilities, their equipment, and the appearance of employees (Parasuraman et al., 1988). Reliability is the ability of the service firm to perform the service promised dependably and accurately (Parasuraman et al., 1988). Responsiveness is the willingness of the firm's staff to help customers and to provide them with prompt service (Parasuraman et al., 1988). Assurance refers to the knowledge and courtesy of the company's employees and their ability to inspire trust and confidence in the customer toward the service provider (Parasuraman et al., 1988). Empathy is the caring, individualized attention the service firm provides each customer (Parasuraman et al., 1988).

Goetsch and Davies (2006) discuss the concept of service quality in relation to the application of ISO 9001:2000 and they define the characteristics of service quality as:

- Facilities, capacity, number of personnel and quantity of materials
- Waiting time, delivery time and process times of administrative tasks
- Hygiene, safety, reliability and security of customers

- Responsiveness, accessibility, courtesy, comfort, aesthetics of environment, competence, dependability, accuracy, completeness, credibility and effective communication of learners.

From the review of the literature it is evident that Parasuraman et al. (1985) and Goetsch and Davies (2006) concur regarding quality dimensions such as reliability, responsiveness, competence, accessibility, courtesy, communication, credibility, security and tangibles. However, there is disparity on knowing the customer and customization as part of service quality.

The above literature indicates that although quality assurance has been on the agenda of higher education both nationally and internationally for some time, the implementation of quality assurance systems is a complex process. Having reviewed some of the challenges faced by institutions of higher learning regarding implementation of service quality assurance, the focus now shifts to analysis of existing non-systemic approaches.

2.8 ANALYSIS OF NON-SYSTEMIC APPROACHES OF EVALUATION

On analysis of the existing literature, there are some significant arguments against the conceptual frameworks of evaluation implemented in higher education both nationally and internationally. This analysis is based upon the existing critique made by educational and marketing theorists and the researcher's own arguments to provide a synthesis of various viewpoints on current evaluation practices, service quality and customer satisfaction in institutions of higher learning.

The disconfirmation theory emphasizes both quality and satisfaction, when assessing customer satisfaction in relation to service quality. As mentioned previously, disconfirmation occurs by subtracting the expectation from the performance ($P - E$). However, this disconfirmation concept is open to some criticism due to its cognitive nature and algebraic formulation.

According to Van Dyke, Prybutok and Kappelman (1999:878) the disconfirmation concept is a poor choice by which to measure psychological paradigms because there is little evidence of customers' actual assessments of service quality. Cronin and Taylor (1992) question the validity of the $P - E$ introduced in the disconfirmation paradigm, suggesting that this concept is a potentially misleading gauge of service quality perceptions.

Another conceptual critique highlighted by Buttle (1998:8) is that Service Quality [(SQ) = Performance (P) – Expectations (E)] is based upon disconfirmation, rather than the attitudes of the customers. The premise of disconfirmation is that service quality depends not on the absolute level of performance experienced, but on performance compared to expected performance. There has been considerable debate that the performance-minus-expectation construct is possibly a flawed and incoherent measurement of the assessment of service quality (Cronin and Taylor, 1992:58). In addition to the conceptual criticisms pertaining to the disconfirmation paradigm, which is the foundation of SERVQUAL, another issue has also been raised by some researchers on its dimensionality. Teas (1994:133) highlighted a problem as to whether SERVQUAL domains are vectors or ideal points. Certain elements like empathy become difficult to conceptualise on a linear scale. It is equally difficult to see how this instrument can be of any use in quality assurance, unless its domains are easy for the average customer to understand.

Ladhari (2008:66) suggests that SERVQUAL has several theoretical and empirical criticisms and limitations. Van Dyke et al. (1999:880) argue that the gap score is a poor choice as a measure of psychological construct while Ekinci and Riley (1998:352) mention that the SERVQUAL model has no equivalent in theories of psychological function. The concept of expectation is loosely defined and leads to multiple interpretations (Teas, 1993, 1994) and the resulted operationalisation of the SERVQUAL model is open to multiple interpretations (Ladhari, 2008:67). The Factor-loading pattern on the items and dimension of the SERVQUAL model indicates a weakness in convergent validity. Literature analysis confirms that a

number of researchers cannot agree on the different dimensions which are appropriate for expectations, perceptions and gap scores. SERVQUAL only focuses on the process of service delivery rather than outcomes of service encounters (Gronroos, 1995; Richard and Allaway, 1993, Brady and Cronin, 2001). According to Dabholakar, Thorpe and Rentz (1996); Brady and Cronin (2001) and Wilkins, Merrilees and Herington (2007) the SERVQUAL model is fundamentally flawed as researchers contended that service quality is an aggregation of various quality sub-dimensions and service quality is a multilevel construct as well as a multidimensional construct.

Service quality frameworks and customer satisfaction models have generally come under criticism for the composition and number of domains they include. All these frameworks consist of pre-defined domain attributes that are generic to all service organisations. Babakus and Boller (1992:254) suggest that service quality may be complex in some industries, and unidimensional in others. As a consequence, the predefined domains and attributes are not universal and are likely to require contextualization with respect to the measurements of attributes and the industry being investigated (Buttle, 1998; Schneider and White 2004). A detailed analysis of these models reveals an underrepresentation of the construct of customer satisfaction in relation to service quality. This implies that the models do not possess a framework required for the holistic understanding of customer satisfaction relative to service quality in a given environment. Some of these models are static and generic in nature and have not been specially developed for a particular environment, for example a UOT in South Africa.

Following is a table expounding on the benefits and limitations of the evaluation models investigated in the study.

Table 2.2: Evaluation Models applied to Higher Education

| EUROPEAN FOUNDATION FOR QUALITY MANAGEMENT (EFQM) | |
|---|---|
| Benefits: <ul style="list-style-type: none"> ▪ Integrated map of the management issues valued and useful for securing confidence of stakeholders. ▪ Useful as a basis of self-assessment. ▪ Tests relationship between enablers/results | Limitations: <ul style="list-style-type: none"> ▪ More relevant to service functions. ▪ Dilemma of applying business language to public sector. ▪ It may be 3 to 5 years before benefits are evident. ▪ Challenges regarding managerial skills and top-level commitment to higher education. ▪ Lack of integration between EFQM and national Higher Education quality control mechanisms. |
| BALDRIGE NATIONAL QUALITY PROGRAMME (BNQP) | |
| Benefits: <ul style="list-style-type: none"> ▪ Evident in operational elements; strategic and budget planning, careers, outreach and information services. ▪ May be immediate and long standing. | Limitations: <ul style="list-style-type: none"> ▪ It is primarily aimed at institutions based in the USA. |
| DATA ENVELOPMENT ANALYSIS (DEA) | |
| Benefits: <ul style="list-style-type: none"> ▪ Can be applied to a multiple input multiple output production context. ▪ Used to obtained measures of technical and allocative efficiencies for | Limitations: <ul style="list-style-type: none"> ▪ There are no significant tests for comparing models or for comparing the efficiency scores of individuals or groups of decision making units. |

| | |
|--|---|
| individual departments. | <ul style="list-style-type: none"> ▪ There is a lack of a unifying index of performance in many public decision-making units, such as profit in a private sector, which substantially increases the complexity of the problem. |
| SERVQUAL | |
| <p>Benefits:</p> <ul style="list-style-type: none"> ▪ Enables assessment of internal and external customer views which is important in a competitive environment | <p>Limitations:</p> <ul style="list-style-type: none"> ▪ Student culture impacts on perceived importance of different elements of higher education and thus on perceptions of quality. ▪ Performance indicators related to management processes but do not address education quality. |
| SERVPERF | |
| <p>Benefits:</p> <ul style="list-style-type: none"> ▪ Overcomes the problems raised regarding SERVQUAL, namely, raising expectations, administration of the two parts of the questionnaire and the statistical properties of difference scores. | <p>Limitations:</p> <ul style="list-style-type: none"> ▪ Does not take into account customer expectations and only utilizes the perceptions of service performance. |
| IMPORTANCE-PERFORMANCE ANALYSIS (IPA) | |
| <p>Benefits:</p> <ul style="list-style-type: none"> ▪ Identifies which service attributes should be maintained at present levels | <p>Limitations:</p> <ul style="list-style-type: none"> ▪ A number of issues need to be addressed prior to the application of |

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|---|---|
| <p>as well as those attributes on which significant improvement will have minimal impact.</p> <ul style="list-style-type: none"> ▪ Useful management tool in deploying scarce resources to areas where performance improvement is likely to have the most effect on overall customer satisfaction. | <p>the technique, i.e. Differentiate between determinants and important attributes for consumers and the issue of bias and the separation of the performance and importance scales.</p> <ul style="list-style-type: none"> ▪ Confusion between concepts of importance and expectation. |
| BALANCED SCORECARD APPROACH (BSC) | |
| <p>Benefits:</p> <ul style="list-style-type: none"> ▪ Is a simple, systematic, easy-to-understand approach for performance measurement, review and evaluation. ▪ Emphasizes the role of the customer; internal processes; and innovation and learning. ▪ System can increase educational quality. ▪ Staff understand performance targets. ▪ Focus is on performance management and evaluation. | <p>Limitations:</p> <ul style="list-style-type: none"> ▪ Education sector has not embraced the BSC framework. ▪ Is not sufficiently rich to reflect the dual operational and strategic issues of faculty. ▪ Performance indicators require careful identification specific to situations and can be dysfunctional unless grounded in strategy. |
| HIGHER EDUCATION QUALITY COMMITTEE (HEQC) | |
| <p>Benefits:</p> <ul style="list-style-type: none"> ▪ Places specific emphasis on higher education in South Africa. ▪ Conformance to national legislation. | <p>Limitations:</p> <ul style="list-style-type: none"> ▪ A new system that is evolving as a quality management system for institutions of higher learning with specific reference to universities of technology in South Africa. |

| SOUTH AFRICAN EXCELLENCE MODEL (SAEM) | |
|---|--|
| Benefits: <ul style="list-style-type: none"> ▪ The use of this model demonstrates commitment to excellence in South African organisations | Limitations: <ul style="list-style-type: none"> ▪ Not ideal for organisations operating globally as the framework is only supported in South Africa. |

Source: Adapted from Brookes and Becket, 2006 and Weideman, 2008

2.9 CONCLUSION

Based on the conceptual critiques made by different researchers in the literature, it may be concluded that frameworks are distinct, and that there is no universally accepted notion on the optimal paradigm to evaluate customer satisfaction in relation to service quality, particularly in higher education. Some of the models may be described as somewhat myopic in their viewpoint, and their applicability may generate problems in gauging service quality and customer satisfaction. This creates an urgent need to develop a new framework for measuring service quality directly from the dynamic environment. In other words, the framework must be principally derived from the pragmatic environment in which the problem domain resides, in order to arrive at a greater holistic understanding of the dynamism of the problem environment. Thus, the researcher will be applying a systems thinking approach in the development of a suitable framework to evaluate service in a higher education context with specific reference to universities of technology in South Africa.

CHAPTER 3

CONTEXTUALISING TERTIARY INSTITUTIONS AS SERVICE ORGANISATIONS

- 3.1 Introduction
- 3.2 What are services?
- 3.3 The unique characteristics of services
- 3.4 Service Marketing mix and its applicability to tertiary institutions
- 3.5 Contemporary issues on service quality management
- 3.6 Service as a system
- 3.7 Conclusion

3.1 INTRODUCTION

This chapter seeks to investigate research issues relating to service organisations and their applicability to tertiary institutions. In particular there is an attempt to clarify the institutional identity of a university as a service organisation. A university as an institution has an important role to play in society. Badat (2009:5) identifies three key purposes of universities specifically in a South African context. Firstly, a university is meant to produce knowledge which advances understanding of the natural and social worlds, and enriches humanity's accumulated scientific and cultural inheritances and heritage. Secondly, a university is for the dissemination of knowledge and the formation and cultivation of the cognitive character of students. Thirdly, which he admits is somewhat newer but increasingly accepted, is that a university must undertake community engagement. It is against this background and for the purpose of this study that a university which is in close association with its stakeholders and sensitive to the economic and social conditions needs to be explored as a service organisation. A university and a society need to be organically linked whereby the needs of society need to be at the centre of the university's activities. Klose and Finkle (1995:638) mention that one of the major causes of poor performance by service organisations, is not knowing what their customers expect. Service organisations are eager to provide good service, but fall short when they do not understand exactly what customers expect from the service (Palmer and Cole, 1995:513).

3.2 WHAT ARE SERVICES?

According to Spohrer, Maglio, Bailey, and Gruhl, (2007:3) service industries, including higher education, over the last two decades have developed to be the largest part of most industrialized economies. Young and Burgess (2010) mention that around 75 % of the economic activity generated in the American economy is represented in the service sector and 76 % in the United Kingdom is services. In South Africa, the service industry constitutes 67.1 % of the gross domestic product of the country (Boshoff and du Plessis, 2009:5), and research further suggests there is growing demand for services and that the increasing dominance of services in economies across the world is not

limited to South Africa, Boshoff and du Plessis (*ibid*). Despite such significant growth of the service economy, there is no widely accepted definition of service. Service productivity, quality, compliance, and innovation all remain hard to measure, (Spohrer et al., 2007:8). Following is a table setting out the typical definitions of service.

Table 3.1 Typical Definitions of Service

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| “A service is any act or performance that one party can offer to another that is essentially intangible and does not result in the ownership of anything.” (Kotler and Keller, 2006:402) |
| “A service is a time-perishable, intangible experience performed for a customer acting in the role of a co-producer.” (Fitzsimmons and Fitzsimmons, 2010:4) |
| “Service [is] the application of resources for the benefit of another” (Vargo and Lusch cited in Spohrer, Vargo, Maglio, Caswell, 2008:1) |
| “Services as deeds, processes, and performances provided or coproduced by one entity or person for another entity or person.” (Zeithaml, Bitner & Gremler, 2009:4) |

Vargo and Lusch (2004:2) provide a more elaborate definition of service as “the application of specialized competencies (knowledge and skills) through deeds, processes, and performances for the benefit of another entity or the entity itself.” Alter (2008b:71) observes that the definition of services encompasses a wide range of services, services for external and for internal customers; personal and impersonal services; repetitive and non-repetitive services; long-term and short-term services customized, semi-customized, and non-customized services; automated, IT-reliant, and non-automated services and services with varying degrees of self-service responsibilities.

Kandampully, Mok and Sparks (2004:6) state that service has been defined as “any activity or benefit one party can offer to another that is essentially intangible and does not result in the ownership of anything”. Conversely, goods are defined as “tangible economic products that are capable of being seen and touched and may or may not be tasted, heard or smelled” (Mudie and Pirrie, 2006:2). In marketing, goods and services are used interchangeably as they are both regarded as products. For the purpose of this study it is important to dissect this statement, as individuals who are unfamiliar with

this, may regard a “product” as a physical object with identifiable and tangible attributes (Baker, 2003:1119). Various services might thus not be considered as products (eg. A lecturer delivering a presentation to a group of Financial Accounting students). Zikmund and D’Amico (2002:30), on the other hand, define a product as “a good, service or idea that offers a bundle of tangible and intangible attributes to satisfy consumers”. As a consequence, goods and services may both be regarded as products.

The following section attempts to address the question of why services are different from goods, while both may be considered as products. Section 3.3 provides relevant clarification for this question by highlighting the unique characteristics of services.

3.3 THE UNIQUE CHARACTERISTICS OF SERVICES

Edgett and Parkinson (1993:19) in a review of the service industry mention that it is generally accepted that the marketing of services is different from the marketing of physical goods due to their unique characteristics. Services have distinctive characteristics which differentiate them from goods and have implications for the manner in which they are marketed. One of the fundamental distinctions between goods and services is that “goods” are “things” and a “service” is an “act”.

Lovelock & Wright (2002:14) highlight some basic characteristics of services:

- Customers do not obtain ownership. Customers usually derive value from a service without obtaining ownership of any tangible elements.
- There is customer involvement in the production process. Customers are frequently actively involved in creating the service product by helping themselves or by co-operating with the staff rendering the service.
- Time is important. Customers have to be physically present to receive services. Some customers are sensitive to time and often speed is a key element to good service delivery.
- Services are perishable and cannot be stored like physical goods.

Based on the characteristics of services highlighted above one can deduce that a university belongs to the category of educational services. A learner would register at a university to obtain a particular qualification. The knowledge gained while registered at a university is dependent upon a learner's ability to glean information from the educator. If this process is successful, then the learner derives value from the service arguably without obtaining any tangible elements besides a certificate at the successful completion of a course. Educational literature asserts that in order for effective learning to occur, learning needs to be active (Elnicki, Halperin, Shockcor & Aronoff, 1999). At a university it is expected of students to co-operate in the learning process, ie. with submission of assignments, presentations, self-study, etc. At a University time is an important factor as a university is largely a bureaucratic organisation controlled by time. A learner needs to be physically present to receive most services. However, it has become a common practice to exercise non-contact learning via the use of social networks, on-line learning, dvd's, etc. Unlike physical goods, services at a university are perishable and cannot be stored, yesterday's course vacancy cannot be sold. A learner is expected to be present when a particular topic is taught as information is dynamic and constantly changing. Production and consumption must take place simultaneously.

Palmer and Cole (1995:24) distinguish between a good and a service on a continuum as illustrated in Figure 3.1.

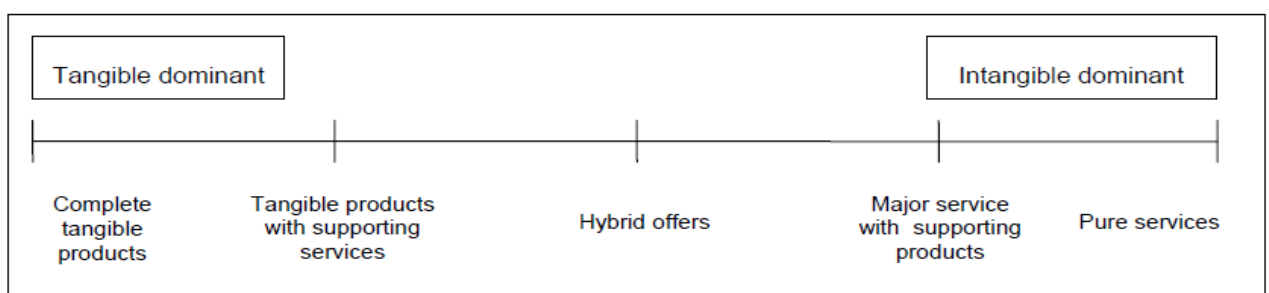


Figure 3.1: Goods and services continuum. Source: Palmer and Cole (1995:24)

At the one end of the continuum are the tangible products and at the other end are the intangible services. Higher education has been described as a service (Ivy, 2008:289; Alter, 2008b:72) (intangible) with supporting products (tangible), leaning towards the intangible side of the goods and services continuum. Tertiary institutions provide

service activities such as the teaching process and contact with customers (intangible element) as well as learning materials such as textbooks (tangible elements).

Several authors including Boshoff and du Plessis (2009:248); Zeithaml et al. (2009:20) and Kotler and Armstrong (2010) suggest that services have the following unique characteristics intangibility, inseparability, heterogeneity and perishability. Because education may be classified as a service (Zeithaml, Bitner and Gremler, 2006:5), the following unique characteristics can be applied to education:

3.3.1 Intangibility

Intangibility can be regarded as one of the key determinants in distinguishing between a service and a physical product. Services are essentially intangible as it is not possible to taste, feel, see, hear, smell or evaluate the services prior to the purchase thereof. The intangibility of services poses unique problems for marketers. Mittal (1999:98) suggests that intangibility creates four problems for marketers seeking to promote its attributes or benefits: abstractness, generality, nonsearchability, and mental impalpability. **Abstractness** as it would be difficult for marketers to connect their services to abstract concepts such as financial security or expert advice. **Generality** refers to items that comprise a class of objects, persons, or events (Lovelock & Wirtz, 2007:157). Examples would include airline seats, flight attendants, and cabin service. Marketers are therefore encouraged when seeking to create a distinctive value proposition to communicate what makes a specific offering meaningfully different from competing offerings. **Nonsearchability** means that intangibles cannot be searched or inspected prior to the purchase. **Mental impalpability** refers to the difficulties consumers may experience in discerning the quality of services that are for sale.

3.3.2 Inseparability

Zeithaml, Bitner & Gremler (2009:22) indicate that services cannot be estranged from the person of the seller. Services, by nature, are labour intensive. Boshoff & du Plessis (2009:7) claim that the interaction between a customer and the service provider is described as a service encounter and the service encounter will more than likely

determine the buyer's satisfaction or dissatisfaction with the service. The service provider must be physically present to produce or render a service. Equally, the customer cannot be removed from the producer as it is simultaneously produced and consumed. This is particularly the case in education whereby a service cannot be separated from its consumption.

3.3.3 Heterogeneity

Since services are rendered by naturally imperfect human beings their quality is bound to vary with individual performance. The service provided will differ in quality, time consumed in delivery and the extent of service provided. Zeithaml, et al. (2009:21) assert that heterogeneity results because no two consumers are exactly alike, each having unique requests or experiencing the service in a unique way. For a provider of the service it is difficult to replicate each service experience in view of the fact that services are not produced by a single entity and then distributed to consumers. In an education environment, the providers (academic staff) and customers (students) are all different and homogeneity can never be achieved.

3.3.4 Perishability

Kotler and Armstrong (2010) and Zeithaml et al. (2009:22) state that perishability refers to the fact that services cannot be saved, stored, resold, or returned. Zeithaml, Bitner and Gremler (2006:24) suggest there may be a fluctuating demand which may aggravate the perishability feature. Care should be exercised with regard to the maximum capacity levels available to cope with surges in demand before service levels begin to deteriorate. Thus, service organisations must investigate proper demand forecasting techniques to anticipate variances in demand. Wiese (2008:90) claims that the process of education is perishable since it is consumed partially at the point of delivery and could result in missed opportunities.

Based on the above unique characteristics of service organisations, higher education institutions particularly those in South Africa, need to overcome certain challenges since most services in education are intangible, inseparable, heterogeneous and perishable. By

their nature, services cannot be touched, tasted or possessed; making it very difficult for a consumer to evaluate an intangible service offering. Hoyer and MacInnis (2008:40) argue that developing service products that satisfy consumers' wants and needs are critical marketing activities for institutions. In order to overcome these challenges, traditional universities and universities of technologies particularly, need to understand the environment in which they operate as well as their target markets. In short, tertiary institutions need marketing strategies that are honed for selling the service of education.

3.4 SERVICES MARKETING MIX AND ITS APPLICABILITY TO TERTIARY INSTITUTIONS

According to Kotler and Armstrong (2010:62) the marketing mix is a set of controllable tools that the organisation blends to produce the response it wants in the target market. Marketing research indicates that when developing strategies to promote manufactured goods, marketers tend to address four basic strategic elements, *viz.* product, price, place and promotion. However, Lovelock and Wirtz (2007:22) indicate that in order to encapsulate the distinctive nature of service performances, there is a need to transform the original terminology and instead articulate these as product elements, place and time, price and other user outlays, and promotion and education. Subsequently, there has been an extension to the mix by the addition of four elements associated with service delivery, *viz.* physical evidence, process, people, and productivity and quality. Collectively these "8 Ps" of services marketing are seen as ingredients required in creating viable strategies for meeting customer needs. Robinson and Long (1987:44) and Brooker and Noble (1985:34) suggest that higher education institutions need a well-developed comprehensive marketing strategy that is carefully communicated throughout the institution and which will help higher education institutions to shape their service offerings according to the needs of their customers. The following sub-paragraphs discuss the elements of the marketing mix particular to the nature of services and how they could be integrated in tertiary institutions.

3.4.1 Product Elements

Lovelock and Wirtz (2007:69) suggest that the initial planning of the marketing mix begins with creating a service concept that will render value to its target market and gratify needs in a superior manner when compared to those of the competitors. An effective marketing mix entails the design of a collection of different but mutually reinforcing elements. These elements at a university could include sport facilities, student accommodation, recognition of qualifications, employability, etc.

The firm's marketing strategy should be informed by its service product/s. Similarly, at a university the product elements would entail the actual qualifications offered at a university. There is a school of thought that argues that students registering for qualifications are the raw materials of education and that the graduates are the products, with employers being the customers (Ivy, 2008:289). While there is merit in this paradigm, employers rarely pay universities for their graduates, conversely, it is students who pay universities for the services they receive and ultimately the qualifications that they are awarded. It is against this backdrop that students are seen as customers and the qualification awarded is the product. Wiese (2008:92) points out that students are involved in the education production process as they participate in and co-produce the final service product by participation in class and in campus activities, and by implication, are the consumers of the product.

Institutions must consider place and time as an integral element of their marketing strategies. This element takes into account the availability of services at a convenient location for their students.

3.4.2 Place and Time

Baker (2003:602) and Palmer (2001:11) state that "place decisions refer to the ease of access which potential customers have to a service". Place is considered an integral factor in developing a service marketing strategy because of the inseparability of services from the producer. Jobber (1995:678) claims that distribution channels for services are more direct than those for tangible goods as a result of the inseparability.

The development of messaging services and the Internet has facilitated information-based services to be delivered in cyberspace for retrieval, wherever and whenever it suits the customer (Lovelock and Wirtz, 2007:99). It is undeniable that speed and convenience of place and time have become important determinants of effective service delivery. According to Ivy (2008:290), at a university, place is the distribution method adopted to provide tuition to its market. The advancement of technology has resulted in the development of innovative and alternate modes of tuition resulting in students not being confined to the classroom. Increased access to lecture and support materials is available through virtual learning media like Blackboard and Moodle. Wiese (2008:107) advises that telematic education, distance education and residences on campus can bridge geographic obstacles. In addition, flexibility in the scheduling of lectures such as full-time or part-time classes may improve the accessibility of an institution and bridge the obstacle of time.

According to Kotler and Fox (1995:331) it is important for tertiary institutions to make correct decisions in delivering their programmes. Firstly, tertiary institutions need to begin by determining their delivery system objectives. Kotler and Fox (1995:335) divide a tertiary institution's delivery system into three dimensions. The first dimension is the location of the institution which includes aspects such as its accessibility, atmosphere and facilities; secondly, the scheduling of service delivery that will appeal to students; and lastly, the mode of delivery which comprises technology and various instructional forms to be utilized in the service delivery.

The second distribution decision that Kotler and Fox (1995:335) advise is that tertiary institutions need to determine if new facilities and new locations need to be established. Some recently merged tertiary institutions in South Africa have a number of programmes offered on different campuses in the country. The most economical decision would be to operate a centralized system whereby all students attend at a single location. However, this option is not always convenient for the students. Kotler and Fox (1995:336) recommend that new locations or delivery systems can be established for four reasons: firstly, when the local market is saturated, secondly, when the local market has declined in size or residential sites and/or employment have changed, thirdly, when the institution is operating reasonably, but is aware of favourable potential markets in

other locations, and fourthly, when the institution is doing well but wants to expand its operation to new locations.

Wiese (2008:110) points out that a tertiary institution cannot store its educational services and needs to deliberate how to make its services convenient and practical to its target market in terms of location and scheduling. Institutions may have to consider implementing distance education or using other technologies. In South Africa, tertiary institutions do not have absolute authority in determining distribution channels as tertiary institutions are governed by the Department of Higher Education and Training. Other considerations for universities mulling alternative modes of delivery include issues of cost, revenue and pricing. The following section will discuss the pricing strategy of tertiary institutions as universities are traditionally viewed as non-profit organisations. However, they require sufficient revenue to produce an acceptable public service.

3.4.3 Price and other user outlays

Due to the intangible and experiential nature of services, price becomes important to customers as an indication of what to expect. Lovelock and Wirtz (2007:126) assert that pricing strategy is the financial mechanism through which income is generated to offset the costs of providing service and creating surplus profits. Pricing strategy is never static, with price levels adjusted over time according to factors such as type of customer, time and place of delivery, level of demand, and available capacity. Ivy (2008:289) points out that the pricing element not only affects the revenues that a university derives from its enrolment, but also affects student perceptions of the quality. Higher prices tend to convey higher quality and the converse is also true that lower prices tend to convey lower quality but for some services and for some customers, this is acceptable. McColl-Kennedy (2003:270) and Machado and Cassim (2002:106) state that higher education institutions should take into account three factors when setting prices for their educational programmes:

- Firstly, cost, by determining the amount of revenue needed to cover expected operating expenses;

- Secondly, customer demand, which emphasizes that the final price decision is always made by the customer; and
- Thirdly, competition, as institutions have to weigh their “value” and establish their price relative to their competitors.

Courant (2006:4) is of the view that higher education institutions prepare students to lead an examined life and should therefore price higher education as an expensive, high value proposition. Wallace (2003:32) contends that higher education tuition fees will enable institutions to improve the quality of education and in countries where higher education is subsidized or offered for free, education would be held in higher esteem if a price were attached to it. On the contrary, Beckett (2005:34) warns that institutions charging exorbitant fees may cause institutions to lose students. Tertiary institutions rely heavily on tuition fees as a source of revenue together with government subsidies, donors and third stream income. Third stream income consists of funds received by the university via the offering of skills programmes or non-diploma/degree courses to the public. Wiese (2008:96) states that price plays a role in determining who will apply, who will attend, who the institution will serve, what the institution will be able to offer and whether the institution will meet its enrolment objectives and revenue needs. Therefore, it is important for tertiary institutions to know the cost of producing the service, to know the prices of competitors and determine a pricing strategy that will attract and retain sufficient students. In addition to the nature of the product, place and time and its price, promotion of the product is an important aspect of the marketing mix. The following section focuses on the promotion and education strategy of tertiary institutions.

3.4.4 Promotion and Education

The promotional mix includes various methods of communicating the benefits of a service to potential customers. In order to maximize the use of promotional tools and ensure effective communication, it is imperative for tertiary institutions to understand the communication process. The communication process involves the transfer of an intended message from a sender to a receiver by means of a signal via a channel or medium. Tertiary institutions are considered the senders of the message, while

prospective students, existing students, alumni and stakeholders of the university are the receivers of the message. According to Jones (2002:45) the communication process provides tertiary institutions the opportunity to influence prospective students' behavior by developing a message that creates awareness, alters the student's attitude towards the institution, or encourages the student to apply to the institution. Kotler and Fox (1995:353) advise tertiary institutions to select a medium that will attract attention, arouse interest and present the message clearly.

Promotion of services in particular, requires concentrated emphasis on increasing the perceptible tangibility of a service. Marketing literature indicates that this component plays three vital roles, *viz.* providing needed information and advice, persuading target customers of the merits of a specific brand or service product, and encouraging them to take action at specific times. In service marketing, communication via an educational format is required to teach customers about the benefits of the service, where and when to obtain it, and how to participate in service processes to get the best results. A university may utilize a variety of promotional tools to provide the market with information on its offerings, *viz.* advertising, publicity, public relations and sales promotional efforts. Universities need to be sufficiently flexible to adopt various modes of communication. Universities thus require different elements of the marketing mix to be used for different publics. Universities could use direct mail, open weeks, conventions, art exhibitions, advertising, etc. to inform, remind and persuade prospective students to choose their university. Jones (2002:40) pointed out that tertiary institutions are investing more in advertising as competition for student enrolment increases. In the modern era tertiary institutions are using print, cinema, radio, outdoor advertising boards, television and the Internet to promote their institutions (Wiese, 2008:100). Process has also been identified as another important marketing element which requires consideration.

3.4.5 Process

Process involves the means by which the firm delivers product elements. The process of creating and delivering product elements requires design and implementation of effective processes. Grönroos (2008:299) states that a service is a process rather than a

“thing” implying a service firm theoretically has no products, but only interactive processes. Customers are actively involved in these processes, especially when acting as co-producers. Lusch, Vargo and O’Brien (2007:6) define co-production as involving the participation and integration of resources in the creation of the core offering itself. The resources that can be integrated into company processes by customers are called customer resources (Moeller, 2008:361). Examples could include patients at a surgery, their physical possessions (eg. maintenance services), their nominal goods (eg. banking services), and personal data (tax advice; FlieB and Kleinaltenkamp, 2004:393). Lovelock and Wirtz (2007:232) also indicate that poorly designed processes lead to slow, bureaucratic, and ineffective service delivery, wasted time and a disappointing experience. The processes at a university are predominately the administrative functions of the university which are normally bureaucratic in nature. These processes include the selection and recruitment of students, registration, course evaluations, assessments, dissemination of results and graduation, etc. When comparing the purchase of a tangible product whereby ownership is transferred and the product is taken for later consumption against the purchase of a service, one finds that at a university, payment is required prior to “consumption” and ownership does not take place and a long and closer face-to-face relationship often results (Ivy, 2008:290). The process is set in motion when the student is registered/enrolls. Following classroom attendance and assessments, marks are calculated and captured against the student’s name and student number and he/she is ultimately awarded a qualification. Ivy (2008:291) warns that while this might seem quite straightforward, there are numerous other processes that need to be implemented and synchronized, i.e. the finance system, accommodation, time tabling and the library to insure the highest level of student satisfaction.

Kotler and Armstrong (2010) are of the view that processes and procedures provide customers with a tangible source of assurance of consistency in the service provided. Consistency helps to generate and maintain a positive corporate image in the perception of customers. Wiese (2008:117) affirms that higher education institutions must understand that service products, unlike physical products, are experienced as a process at the time they are consumed. Thus, tertiary institutions must be mindful that process decisions affect service delivery and the process must be managed successfully. Physical

evidence is an element of the marketing mix and is found to be more pertinent when marketing services as opposed to products.

3.4.6 Physical Evidence

Zeithaml et al. (2009) state that the physical evidence relates to the environment in which the service is delivered and any tangible goods that are utilized in the performance and communication of the service. Lovelock and Wirtz (2007:262) believe physical evidence can have a profound impact on customers' impressions. Baker (2003:605) mentions that, due to the intangible nature of services, potential customers are unable to judge a service before it is consumed and look for clues to the likely quality of the service by inspecting the tangible environment. The following provide tangible evidence of a firm's service quality – the appearance of buildings, vehicles, interior furnishing, technology, for example flat screen monitors, staff members' uniforms, signage, printed materials as well as other visible cues. Marketing literature records that a variety of tangible aspects are evaluated by a university's target markets, ranging from the teaching materials to the appearance of the lecture venues and buildings.

Jordaan and Prinsloo (2004:115) claim that physical evidence plays a number of roles such as packaging, facilitating, socializing and managing trust. Wiese (2008:119) states that a tertiary institution's campus environment serves as packaging of the academic programmes. Consequently, special attention should be given to the physical facilities, such as libraries, offices, lecture venues and campus grounds. Physical evidence is also used to facilitate the customer within the service process. Physical structures and signage direct the flow of customers and instruct customers as well as convey expected roles, behaviour and relationships among employees and customers (Wiese, 2008:120). This socializing process conveys a consistent and pleasing image to the customer. Managing trust is achieved by reducing perceived risk and increasing the level of perceived quality by making use of physical evidence. In a tertiary institution, the layout of the classrooms, lighting of classrooms, the appearance of building and grounds and the overall cleanliness can significantly contribute to a student's concept of service quality.

3.4.7 People

Chen, Tsou and Huang (2009:36) indicate that despite technological advances, many services will always require direct interaction between customers and contact personnel. The quality of these interactions strongly influences how customers perceive service quality (Hartline and Ferrell, 1996:54). Successful service organisations invest time and resources in recruiting, developing and motivating personnel in an effort to place suitably qualified personnel in front-line positions of an organisation. At a university, the people element of the marketing mix includes all the staff of the university that interact with the students and these could fall both in academic and administrative categories. A student's first impression of a tertiary institution is often based on the interaction with the staff of the institution. Cubillo, Sanchez and Cervino (2006:102) make the claim that at graduate level, student perceptions of teaching staff reputations can play an important role in the choice process. Some students may be influenced by the number of academic staff who hold PhD's or have a professorial title (Ivy, 2008:290), others by academics' public profiles (Smith, Scott and Lynch, 1995:194).

3.4.8 Productivity and Quality

Both productivity and quality are seen as inseparable in developing marketing strategies for service organisations. Service organisations can ill afford to tackle productivity in isolation from quality and vice versa. Lovelock and Wirtz (2007: 418) warn that it would be unwise to invest in service quality improvements without understanding the trade-off between the incremental costs involved and the incremental revenues anticipated from offering better quality on specific dimensions.

In summary of the marketing mix and its applicability to tertiary institutions, research undertaken by Ivy (2008); Nicolescu (2009); Schüller and Rasticová (2011) established that tertiary institutions make use of various means to market their services such as word-of-mouth, webpages, open days, brochures, alumni networks and advertisements in newspapers, radio and television. Some studies undertaken in South Africa report that word-of-mouth from friends is the most important source of information Jones (2002:40) while Coetzee and Liebenberg (2004:35) identified open days and websites as

the most important sources of information as rated by students. It is evident that tertiary institutions need to analyse the market, understand their own strengths and weaknesses and identify possible market segments to target. Tertiary institutions need to develop an image or brand they want students to have of their service product. Vidaver-Cohen (2007:280) supports this by stating that a good reputation is considered to be one of the most valuable intangible assets any organisation can possess. It is said to reduce stakeholder uncertainty about future organisational performances, strengthen competitive advantage and contribute to public confidence. Finally, the institution will then develop a marketing strategy by implementing and coordinating an appropriate marketing mix. In view of the fact that all the aspects of the services mix are a part of service encounters, it is important to understand service quality and the determinants of service quality. The next section will focus on contemporary issues of service quality, the challenges in managing service quality and the changes in conception of service quality management.

3.5 CONTEMPORARY ISSUES ON SERVICE QUALITY MANAGEMENT

The literature records that service quality is clearly related to costs (Konuk and Konuk, 2012:2), profitability (Anderson, Fornell, and Lehmann, 1994:54), customer satisfaction (Agbor, 2011); and customer retention (Kheng, Mahamad, Ramayah and Mosahab, 2010). Quality is the most important purchase decision factor influencing the customer's buying decisions (Sachdev & Verma, 2004:97). Wisniewski (2001:383) claims that service quality is a concept that has generated considerable interest and debate because of the difficulties in both defining service quality and measuring service quality with no overall consensus emerging on either. A commonly used definition of service quality is the extent to which a service meets customers' needs or expectations (Parasuraman, Zeithaml and Berry, 1985, 1988; Lewis and Mitchell, 1990:12; Bolton and Drew, 1991:2; Cronin and Taylor, 1992:57; Zeithaml, Bitner and Gremler, 2006:106). Service quality can thus be defined as the *difference* between customer expectations of service and perceived service. Parasuraman, Zeithaml and Berry (1985:42) further expand on the *difference* as the degree and direction of discrepancy between consumers' perceptions and expectations in terms of different but relatively important dimensions of the service quality.

Service quality measurement has been illustrated along a continuum ranging from ideal quality to totally unacceptable quality with some point along the continuum representing satisfactory quality. The position of a customer's perception of service quality on the continuum depends on the nature of discrepancy between the expected service *vis-a-vis* the service perceived by the consumer. If expectations are greater than performance, then perceived quality is less than satisfactory and hence customer dissatisfaction occurs (Parasuraman et al. 1985:42; Lewis and Mitchell, 1990:12). When expected service is less than perceived service, perceived service quality is more satisfactory and will tend towards ideal quality with an increased positive discrepancy between expected and perceived service. Service quality (SQ) is thus operationalised as performance (P) – minus – expectation (E) (computed disconfirmation) to provide a tool to service providers for evaluating and managing their service quality levels by working on the two important parameters of customer perception (P) and expectations (E).

A widely used model to describe customer satisfaction is the so-called “confirmation/disconfirmation” paradigm (Davis and Heineke, 1998:65; Woodruff, Clemons, Schumann, Gardial and Bruns, 1991:103). This model shows that satisfaction or dissatisfaction is determined by the difference between the customers' expectations (E) of a particular product or service and their perceptions of the actual performance (P) of this product or service. If the customers' expectations are fulfilled, the result is satisfaction; if not, dissatisfaction occurs. Customers' satisfaction (S) can thus be expressed in mathematical terms as:

$$S = E - P$$

In addition to the three variables noted above (S, E, and P) there is a third variable, importance (I) (Kanning and Bergmann, 2009:377). This variable is relevant as not all attributes are equally important to customers, for example, a student at university is likely to rate academic success as being of greater importance to satisfaction than friendliness of staff members. If the variable of importance is included to the model then mathematically it would be expressed as:

$$S = (E - P) \times I$$

Both models described above are plausible, but according to Kanning and Bergmann (2009:378), both present conceptual problems.

The first problem is the lack of clarity regarding the term “expectation”. McKinney, Yoon and Zahedi (2002:298) point out, that an “expectation” might correspond to a pressing need of the customer, or a desire, or an ideal, or even a norm. Based on these different possible meanings of the word “expectation” there are likely to be different representations of qualities, but such distinctions are not taken into consideration in the “confirmation/disconfirmation” model.

A conceptual framework developed by Oliver (1980), has become one of the influential paradigms that has dominated the service quality and customer satisfaction literature and is known as the disconfirmation paradigm (Churchill and Surprenant, 1982:492; Grönroos, 1995:253; Wu, DeSarbo, Chen and Fu, 2006:224). The paradigm proposes that consumers’ expectations are a function of disconfirmation. The model proposes that a customer makes a comparison between his or her experience with pre-consumption expectations (before the consumption of a service) and post-consumption experience (after the consumption of the service). Based on this comparison, a state of satisfaction or dissatisfaction towards specific services is surmised.

Parasuraman, Zeithaml and Berry (1985:41) adapted the disconfirmation paradigm and proposed a gap model. The gap model draws a comparison between the quality of a service the customer expects to receive with the actual level of perceived service performance (See section 2.8 of this study). Iacobucci, Ostrom and Grayson (1995:278) highlight the distinction, which is referred to as a “disconfirmation paradigm” in the customer satisfaction literature and as a “gap model” in the service quality literature.

3.5.1 The challenges of managing service quality

Oliva and Bean (2008:163) indicate that service organisations generate value and create profits through the delivery of intangible services which are often difficult to describe to customers. Similarly, it is difficult for customers to express precisely their expectations of a service. Zeithaml, Bitner and Gremler (2009); Carrillat, Jaramillo and Mulki

(2007:473) observe that the only criteria available to evaluate service quality are subjective comparisons of customers' expectations with their perception of the actual service delivered. Services are typically produced in the presence of the customer (Vargo & Lusch (2004:3); Rust (2006:289); Finsterwalder and Tuzovic (2010:111); Tontini and Picolo (2010:566) and customers often participate in the production process (Fitzsimmons and Fitzsimmon 2010; Sampson and Froehle 2006:330 and Vargo and Lusch 2004:5). According to Honebein (2006:28) this simultaneous provision and consumption of services bring employees and customers physically and psychologically close thereby obscuring the boundary between service providers and consumers and permitting each to influence the other's perceptions and expectations. The dearth of objective service standards and the mutual influence between service providers and consumers, point to a co-evolution of their perceptions and expectations (Oliva and Bean, 2007). Sasaki (2007:440) mentions that another challenge of managing service quality is the high degree of customization created by the personal interaction of service providers and a consumer which means that significant productivity gains through capital substitution in high-contact services is difficult to achieve. Rust (2004:211) claims that little research has been undertaken to understand the effects of these forces acting simultaneously.

Another challenge of managing service quality is that associated with costs. Several studies have demonstrated a consistent relationship between quality and a firm's bottom line performance (Rapert and Wren, 1998:224; Fojt, 1996:2). Service organisations incur costs from any service failure, but implementing a quality control system to minimize problems also entails costs (Laws, 2004:19). These costs flow from the supplier's initiatives to provide a quality service from the start. Laws (2004:20) warns that further costs are incurred in implementing preventative measures to reduce future dissatisfaction, including the redesign of service delivery systems or training and motivational programmes for staff. These costs have to be weighed against the prospect that dissatisfied customers will take their future business somewhere else (Schmenner, 1995; Zeithaml et al. 2009). Research has also indicated that disgruntled customers are more likely to discuss their negative experiences with many associates thereby further tarnishing the service credibility of the organisation in the marketplace. Hence, the

purpose of this study is also to seek to understand the effects of these challenges. Following is a discussion on changes in conceptions of service quality management.

3.5.2 Changes in conceptions of service quality management

In a seminal article, Vargo and Lusch (2004:2) present a service-dominant (S-D) logic which considers service as a process of doing something for another party. The S-D logic has been characterized as a lens or mindset through which phenomena such as value creation, market exchange, and competition can be viewed in the light of service provision (Lusch, Vargo and Malter, 2006:267). The underlying premise of the S-D logic is that the core of exchange is not manifested by goods but rather by the rendering of service which is provided directly or indirectly through employees, goods, websites, etc. (Vargo & Lusch, 2004). In addition, S-D logic proposes that value is not what goes into a product but is what customers get out of a product and, as a consequence, value subjectively arises within individual customer experiences (Grönroos, 2008; Prahalad and Ramaswamy, 2004:80).

The S-D logic implies a relationship between the service organisation and its potential clients, and mutual work with them which results in the co-creation of value. The value co-creation in the service-dominant logic is illustrated in Figure 3.2. Research suggests that customers as external factors have to contribute in varying degrees in order to be able to produce and consume the service (Kelly, Donnelly and Skinner, 1990:315) either by personally getting involved or providing some objects or information to the co-creation process, effectively co-creating value (Berry and Lampo, 2000:266; Grönroos, 2008:299; Payne, Storbacka & Frow, 2007:85). Alter (2008c:8) mentions that the extent of co-creation of value can be viewed as a continuum:

- The customer does nothing.
- The customer provides a request for service but does little else. There exists a minimum level of co-creation.
- Customers participate in some aspects of service fulfillment processes.
- The service occurs largely through multiple service interactions including direct participation by customers, and

- A self-service approach is utilized, whereby the service provider creates and provides the means by which the customer performs self-service processes and activities.

Vargo et al. (2008:148) assert that in service-dominant logic, knowledge and skills are fundamental resources required for competitive advantage derived from collaborative competence which enables organisations to adapt to dynamic and complex environments (Lusch et al., 2007:7). It is the knowledge and skills of the providers that represent the essential source of value creation, not the goods, which are only sometimes used to convey them. Therefore, in S-D logic, goods are still essential; however, service is superordinate.

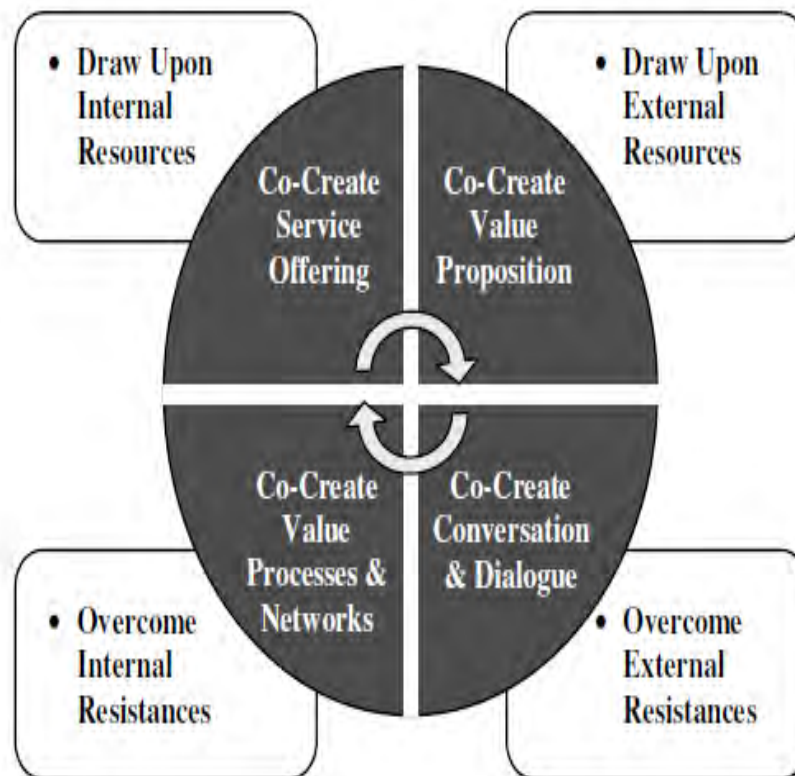


Figure 3.2 Value creation and service-dominant logic

Source: Vargo and Lusch, 2008:257

According to Lusch et al. (2007:6) S-D logic superordinates service (the process of providing benefit) to products (units of output that are sometimes used in the process). Service-dominant logic is grounded in nine foundational premises, *viz.* The application

of specialized skills and knowledge is the fundamental unit of exchange; indirect exchange masks the fundamental unit of exchange; goods are distribution mechanisms for service provision; knowledge is the fundamental source of competitive advantage; all economies are service economies; the customer is always a co-creator of value; the enterprise can only make value propositions; a service-centered view is customer oriented and relational; organisations exist to integrate and transform micro-specialised competencies into complex services that are demanded in the market place. These foundational premises as well as the S-D logic have been challenged.

The literature provides four notable criticisms of S-D logic. Firstly, Venkatesh, Penaloza and Firat (2006:260) argue that the disciplinary focus of marketing should be on markets and that skills and knowledge are subordinate to meanings and value. They further argue that more important than skills and knowledge or goods and services emphasized in S-D logic are the meanings and values underlying these two sets of market symbols which together constitute micro elements of the world.

Secondly, Wilkie and Moore (2006:270) argue that the increased balance between firm and customer implied in co-creation may not be as salient as suggested by Vargo and Lusch (2004:11). They imply that there is an excessive focus on the firm in S-D logic, or at least an imbalance in relation to the other two parties and rather the focus should be on an aggregate marketing system which consists of consumers, marketers and government. Furthermore, Wilkie and Moore (2006:271) suggest that, contrary to what is implied by the concept of co-creation, a significant information asymmetry remains between consumers and companies. This is because marketers specialize in specific categories, possess expertise and experience about what is sold, however the process frequently offers partial information to buyers.

Thirdly, Lehmann (2006:297) criticizes S-D logic, suggesting that servicing the society is secondary to financial performance that is driven by growth imperatives of the firms. Lehmann (2006:297) argues that S-D logic suggests that firms exist because they provide services for society and that a firm's financial performance is primarily a learning mechanism. The argument is that a firm's performance is not a reward for

fulfilling customer needs but the reason to connect instead. Thus, satisfying and pleasing customers is often necessary but not a sufficient condition.

Fourthly, Archrol and Kotler (2006:147) criticize the validity of S-D logic as a paradigm, arguing that substitution of goods for services does not bring about inconsistencies or problems in meaning. They also suggest that the supposed distinction between service-centered and goods-centered view is not based on a fundamental logic shift. Archrol and Kotler (2006:148) argue further that four premises do not account for pure services and services provided via goods and in addition they are more provider-oriented than customer-oriented. The authors suggest that S-D logic is a step backward from the current exchange paradigm because the “application of specialized competencies and knowledge to one’s own benefit” does not address the mutuality of interest between two parties in “end-to-end exchange-consumption relationships”.

In addition, Grönroos (2008:306) notes that although from a consumption perspective, “every business can be considered a service business” there are still some customers that might “see and purchase goods as goods and not as services”. Grönroos (2008:307) proposes that in such situations, value propositions should be developed and communicated accordingly. Following is a discussion of service as a system. The reasoning is based on the work of Shostack (1985:35) who asserts that in order to make changes to an existing service operation, one should view a service operation as a system and not as a set of disconnected pieces and parts.

3.6 SERVICE AS A SYSTEM

Vargo and Lusch (2004:10) define a service system as a dynamic value co-creation configuration of resources, including people, organizations, shared information and technology all connected internally and externally to other service systems by value propositions. They suggest that the most fundamental dichotomy related to resources is that of operant and operand resources. Operant resources use operand resources to create value (realize some benefit for others and a future version of the operant resource, Spohrer, Anderson, Pass, Ager, 2008:3). For example, a lecturer (operant resource) may use an interactive teaching tool (operand resource) to realize the value of a more

interactive lecture. A service system is a configuration of resources, and so it is also a resource itself. Anderson, Narus, and von Rossum (2006:4) describe the requirements of successful value propositions. The design of a successful value proposition requires knowledge of the provider's capabilities and needs; the customers' capabilities and needs; and the competitors' capabilities and needs.

Maglio, Vargo, Caswell and Spohrer (2009:6) provide a formal description of the structure and composition of service systems:

- A system may be described as a configuration of resources, including at least one operant resource, in which the properties and behavior of the configuration are more than the properties and behavior of the individual resources.
- Operant resources can act on other resources (including other operant resources) to create change.
- Service means the application of resources (including competencies, skills, and knowledge) to make changes that have value for another (system).
- Value refers to improvement in a system, as determined by the system or by the system's ability to adapt to an environment.
- Economic exchange is the voluntary, reciprocal use of resources for mutual value creation by two or more interacting systems.

In another definition, Maglio et al. (2009:33) define a service system as an open system capable of improving the state of another system through sharing or applying its resources (the other system determines and agrees that the interaction has value), and capable of improving its own state by acquiring external resources (the system itself sees value in its interaction with other systems). Maglio et al. (2009) observe service systems as dynamic: composing, recomposing, and decomposing over time. Service systems that continue to a large extent in the same form over long periods are open systems through which operand resources flow, but in which operant resources are stable.

Not all service system interactions qualify as service interactions. The Interact-Serve-Propose-Agree-Realize (ISPAR) model proposed by Spohrer, Vargo, Maglio, Caswell (2008:7) attempts to explain the possible outcomes between service systems. The

ISPAR model (Figure 3.3) is a normative model that aims to cover the space of ten possible interactions between two interactive service systems. The ISPAR model of service systems is characterized by interaction episodes. An interaction episode is described as a series of activities jointly undertaken by two service systems. The interactions can be service interactions which are interactions that aim to co-create value or non-service interactions. An interaction is said to be a service interaction, whereby a proposal must be made by one party to another, agreement must be reached between the parties, and value must be realized by both. If value is not realized it may result in a dispute, which in turn may or may not be resolved to the satisfaction of both parties. If an interaction is not a service interaction, it may be welcome or unwelcome, and some unwelcome interactions may be illegal interactions (Maglio et al., 2009).

Following is an explanation of the application of the ISPAR model:

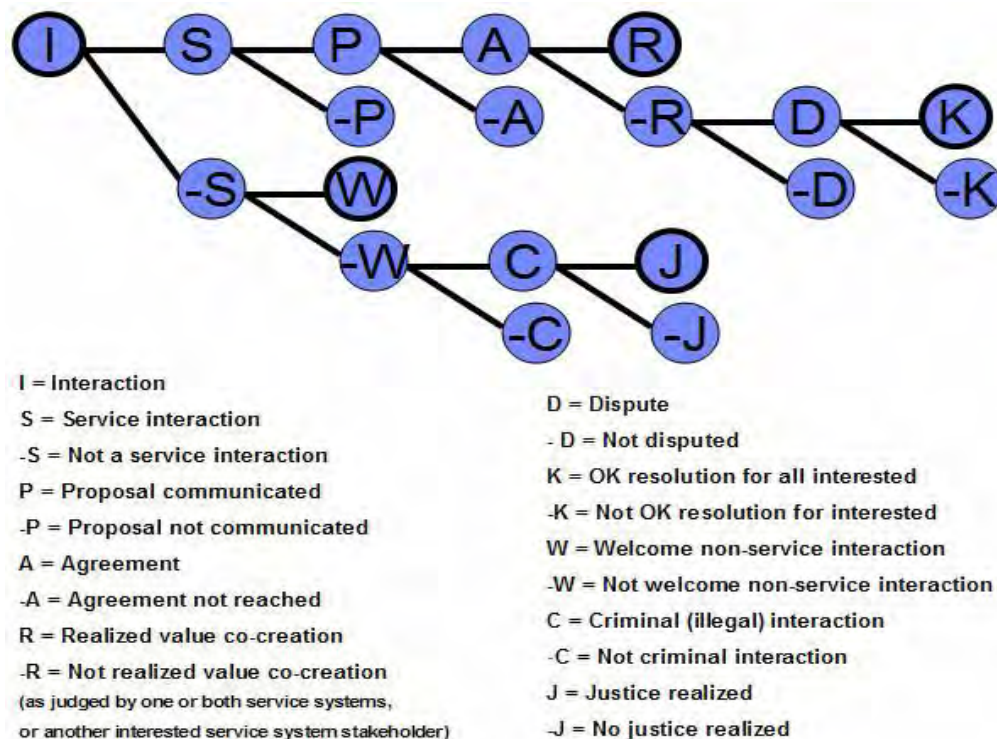


Figure 3.3: THE ISPAR MODEL OF SERVICE SYSTEM INTERACTIONS

Source: Spohrer, Vargo, Maglio and Caswell (2008)

1. Outcome (R): This outcome is the realization of the proposed and agreed to value proposition. This is a desired outcome. The value realization outcome (R)

corresponds to a win-win interaction. In this outcome the service interaction is successful, value is co-created and both service systems realize the benefit from the service interaction.

2. Outcomes (-P) and (-A): In this outcome a proposal may not be successfully communicated or comprehended by the other service system (-P) and may lead to the interaction being terminated. Or a proposal may be communicated, but activities between the service systems may not lead to an agreement (-A) and result in the service interaction being aborted.
3. Outcomes (-D), (-K), and (K): The value of a proposed service interaction may not be realized, and it is possible that no dispute (-D) arises. When a dispute arises, the outcome can either be a successful resolution that is acceptable to all the stakeholders (K), or a resolution that is not acceptable to all the stakeholders (-K).
4. Outcome (W): Several interactions between service systems are not service interactions; however the interaction may be welcomed (W) by both service systems.
5. Outcome (-C), (-J), and (J): When the interaction between service systems is not welcome by one or both service systems, a judgement must be made as to the severity of the unwelcome (-W) non-service interaction which could lead to a criminal (-C) act. If the criminal is caught and punished, or in no justice (-J) if the criminal cannot be caught and escapes prosecution. If it is a criminal activity, a series of activities undertaken by several service systems interacting can result in justice (J).

The ISPAR model enables one to see the world as populations of interacting service systems of different types (people, businesses, government agencies, etc) (Maglio et al., 2009). An array of entities can be fused by a single abstraction, and a great number of measurements can be established. In light of the above-mentioned, it is evident that the

ISPAR model could also be applied in a higher education environment. A typical application of the ISPAR model could be as follows.

Education can be regarded as an open system where lecturers (operant resources) employ resources to deliver quality education. The student has to participate in creating value and so is also an operant using resources (including the lecturer resources, which are now the operand). Teaching and learning by its very nature involves an interaction. This interaction can be between the lecturer and the learner, lecturer and a group of learners or peer group interaction. The desired outcome at the end of a lecture is largely to produce a win-win interaction whereby value is co-created. I believe in so doing, a lecturer is attempting to produce life-long learners. This interaction between a lecturer and a learner is coined as a service interaction according to Spohrer and Maglio (2009). However, there are circumstances in a classroom environment when a proposal or concept may not be successfully communicated or comprehended by the learner. The possible reasons for the breakdown in communication or misunderstanding may be attributed to *inter alia*, learning disabilities, socio-economic factors, culture, language, etc. resulting in an agreement not being reached and consequently not realizing a value co-creation.

A similar case can be experienced in the administration ambit of a university where the housing department of a university is a system and the student body of the same university is also a separate system. A certain number of students enroll at a university with the expectation of receiving housing accommodation from the university. In order for value to be co-created, the university would want to provide suitable accommodation for needy and deserving students and in return qualifying students have some expectation of suitable accommodation. At various universities in South Africa there have been numerous disagreements between the management of universities and student organisations around the topical issue of student accommodation. Often this has resulted in activities between the service systems not leading to an agreement and resulting in the service interaction being aborted. Unfortunately, South African tertiary institutions have witnessed some violent service interaction terminations.

The ISPAR model makes provision for outcomes which may be considered as unwelcome non-service interactions. A typical example at a university would be when students engage in unlawful acts and damage university property and threaten the safety of staff and other students. The universities approach the judicial systems of the country and request court interdicts to prevent such behaviour from recurring. If the perpetrators can be identified and criminal charges laid the ISPAR model refers to this as “Justice Realized”. However, there have been cases when university property has been damaged and staff vehicles targeted and no culprits are charged and one or both service systems feel “No Justice is Realized”.

3.7 CONCLUSION

As outlined in the introduction to this chapter, a University as an institution has a distinct identity and has a meaningful role to play in society. A university in its entirety is a system consisting of many sub-systems. The universities’ stakeholders also represent various systems, *viz.* students, parents, government, donors, public, etc. It is the interaction of these two sets of systems which is the critical junction for the successful measure of service quality. It is evident that service is a major factor in any economy, and specifically in South Africa, service cannot be overlooked. The introduction to the chapter highlighted the significant growth in the service industry both nationally and internationally and also emphasized that despite significant growth in the service sector, there still remains no widely acceptable definition for service. It is apparent that services have unique characteristics such as intangibility, inseparability, heterogeneity and perishability. The services provided by tertiary institutions share many of these characteristics and a university can consequently be modelled as a conventional service system.

Through conceptual improvement and empirical findings of past studies, researchers agree that quality evaluation cause satisfaction, subsequently resulting in the finding that service quality being a panacea for customer satisfaction. Vargo and Lusch (2004:2) introduced a paradigm shift in marketing in developing a service-dominated (S-D) logic. Considerable research has been undertaken on the S-D logic and this study will be utilizing elements of S-D logic in the formulation of an evaluation framework for

service quality suited to the business of tertiary education. The chapter also discussed service as a system and how the ISPAR model could be applied to a tertiary environment. The following chapter will discuss systems methodologies and their applicability to the evaluation of an academic department as a service provider.

CHAPTER 4

ANALYSIS OF SYSTEMS METHODOLOGIES

- 4.1 Introduction
- 4.2 Why systems thinking?
- 4.3 Sociological paradigms
- 4.4 Critical Systems Heuristics
- 4.5 System Dynamics
- 4.6 Soft Systems Methodology
- 4.7 The Viable System Model
- 4.8 Work System Method
- 4.9 Linking Evaluation to Systems Thinking
- 4.10 The need for Multiple Criteria Decision Analysis in the Evaluation of an Academic Department as a Service Provider
- 4.11 Conclusion

4.1 INTRODUCTION

The next step in the development of the framework involved investigating and analyzing the systems methodologies and techniques most suitable to the study. This chapter provides an analysis of systems methodologies to serve as a basis for the subsequent formulation of a framework for the evaluation of academic departments at a university of technology. There are a number of definitions of a system; Ackoff (1974:13) defines a system as a set of interrelated elements while Ulrich and Probst (1988:27) cited in Mobach (2000:444) define a system as “a whole made up of parts”. For the purpose of this study, the definition by Lane (2000) is the most appropriate.

Lane (2000:7) defines a system as:

- An assembly of components connected together in an organized manner.
- The components are affected by being in the system and the behavior of the system is changed if they leave it.
- This organized assembly of components does something.
- The assembly as a whole has been identified by someone who is interested in it.

According to Checkland (1981:5) a systems approach embodies a broad view, encapsulating interactions between different parts of the problem. Considering the definition of Lane (2000) and Checkland’s (1981) view of the systems approach, it is important to consider the impact of a system and to note how its configuration (i.e. the interconnectivity of the system’s components) influences the system behavior and hence its emergent properties. Flood and Jackson (1991:19) defined emergent properties in the light of the classical concept of synergy. They argue that such properties relate to the whole system but are not necessarily present in any of the parts. Ulrich and Probst (1988:28) cited in Mobach (2000:445) have a more refined opinion about the concept and argued that the properties of the whole system differ from the properties of the parts. Checkland (1981, 2000) adopted a different stance. He argued that the emergent properties are meaningless in terms of the parts, which make up the whole.

When one considers complex and highly structured situations that can be well defined, especially in terms of inputs and outputs, the reductionist approach is an appropriate method to use for problem solving. However, in systems dominated by human activity, whereby the interrelationships between people are affected by the negative and positive feedback loops that can generate unintended results, this structure is very subtle. At times the effects of these interrelated activities are only demonstrated after a period of time has elapsed, making it difficult to envision the whole pattern of change.

This leads one to be more inclined to focus on snapshots of isolated parts of a system resulting in deeper problems not being solved (see Senge, 1990:23). Stacey (1993:365) asserts that in order to deal more effectively with and understand such systems, one is advised to engender a new way of thinking. Hence, selecting systems thinking becomes important as it provides the practitioner with the ability to see things or systems as wholes rather than the different individual components. The reader is reminded that this study is concerned with a university which is considered a complex and highly structured organization/system having “emergent properties”.

4.2 WHY SYSTEMS THINKING?

Checkland (2000:S11) believes that complex problems involve richly interconnected sets of “parts” and the relationships between the parts can be more important than the nature of the parts themselves. Systems thinking evolved as a reaction to the shortcomings of reductionism. Reductionism as a scientific method was initiated by the Greek philosophers, Plato and Aristotle, as part of rational thinking. Rational thinking forms the basis of scientific knowledge. This knowledge is acquired from rational thought combined with experience. The experience is gained from purposefully designed repeatable experiments. These experiments in turn enable the scientist to formulate laws that regulate the universe. Checkland (1981:51) reasons that by means of the reduction of the real world into an experiment, the researcher aims to control the investigation totally, insofar as the changes that do occur, are the results of his actions, rather than the result of complex interactions of which he is unaware.

In reaction to reductionism, Ackoff (1974:12) defines expansionism as a doctrine that maintains that all objects, events, and experiences of them, are part of larger wholes. It, however, does not deny that they have parts, but focusses on the wholes of which they are parts. It was the work of biologist Ludwig Von Bertalanffy (1968) that caused the scientific world to take note of the systems concept. Checkland (2000:S12) posit that from the 1950s to 1970s, systems thinking had by far the most important influence on the management sciences and a number of other fields.

Systems thinking is defined by Kay and Foster (1999:165) as the study of objects as wholes and synthesizing all the relevant information regarding an object, in order to have a sense of it as a whole. Similarly, McNamara (1999: paragraph 2) says systems thinking is used to help view the world from a broad perspective that includes structures, patterns, and events instead of just focusing on the events themselves. Senge (1996) asserts that linear and mechanistic thinking is becoming less effective in addressing the problems that face us today.

In order to apply systems thinking concepts to the evaluation of academic departments which is the core of this research, it is important to understand the philosophical underpinnings of systems thinking concepts. Academic literature on systems is largely in agreement with many of the key concepts of systems thinking:

- **All systems are composed of inter-connected parts.** This implies that because of connectivity, a change in behaviour of one part will result in an effect to another part. Ultimately, a modification or transformation to any part or connection influences the entire system.
- **The structure of a system determines its behaviour.** Structure refers to the configuration of the system. System behaviour is influenced by the structural composition of the system. In order to change the overall behaviour of the system one needs to change the structure of the system.
- **System behaviour is a developing phenomenon.** The behaviour of a system cannot be determined by the investigation or inspection of a particular part. The reasoning for this is: parts are tightly associated, the parts and structure are never

static, feedback loops are present, nonlinear relationships exist, the system is self-organizing and adaptive, behaviour paths are history dependent, emergent behaviour is often counterintuitive, time delays exist and the notion that the human mind has very limited calculation abilities.

- **Feedback loops control a system's major dynamic behaviour.** The feedback loop consists of a series of connections resulting in output from one part influencing input to that same part. This cyclical flow results in delays, large amplification and dampening effects which affects the entire behaviour of the system.
- **Complex social systems exhibit counterintuitive behaviour.** This concept epitomizes the adoption of systems thinking, whereby intuitive methods are used to solve difficult complex social system problems. This is a common flaw and arguably only analytical methods using tools that fit the problem will solve difficult complex social systems problems.

Having discussed the key concepts of systems thinking, it is necessary to clarify the views of a system. These systems include hard systems, soft systems and critical systems.

4.3 SOCIOLOGICAL PARADIGMS

The initial distinction was between hard and soft systems and undertaken by Checkland (1981). Jackson (1991) extended these views on systems to incorporate the critical systems viewpoint. In so doing, he expounded on Ulrich's (1983) critical systems heuristics. The distinction is expressed according to the relative emphasis of ontological and epistemological traditions. The ontological traditions include systems representing real world entities, for example, a transport system, a telecommunication system, an information system or a computer system. These are referred to as bounded entities with a physical presence which can be formally described and which is designed to fulfill a specific mandate. The epistemological traditions include systems as learning devices to inquire into real world entities (Reynolds and Holwell, 2010:7). Midgley (2000:223) describes the three "waves" or phases of inquiry as the three distinctions which have evolved in the ideas and practice of systems thinking.

The first wave of systems approaches can be referred to as hard systems approaches. This wave of thinking adopted a quantitative, applied scientific line on systems. Checkland (1981:190) states that hard systems methodologies start by an urge to solve a relatively well-defined problem which the practitioner to a large extent will take as a given. This implies that the basic assumption underpinning hard systems methodologies is that the problem to be solved or managed is known and is well defined. There is a danger to this philosophy of systems thinking, whereby, managerial problems are taken as a given. In addition, systems solutions should never be created in isolation of the environment to which they belong (Reisman and Oral, 2003:8). Lockett and Lockett (1999) believe that the aim of hard systems thinking is to improve knowledge about the problem area by building representative models. Hard systems are characterized by having precise objectives which can be expressed in quantitative terms and allow for the development of mathematical models. These models are used to predict the response of the system to changes in the environment. Khisty (1995:96) is in support of this claim by stating that hard systems methodologies considers goal-seeking to be an adequate model of human behaviour and rely heavily on the language of problems and solutions to eliminate problems. Eriksson (1998:92), in contrast, claims hard systems methodologies do not provide an explicit normative framework for problem management.

The second wave of systems thinking as described by Midgley (2000:224) involves managing debate between people so that learning may be facilitated; ideas evaluated and plans for action developed. In this wave, emphasis was on dialogue, mutual appreciation and searching for accommodations between different perspectives. Kirk (1995:14) mentions that a soft system is characterized by having: *firstly*, no agreement about the precise objectives of the system; *secondly*, qualitative rather than quantitative objectives; *thirdly*, no single solution, but rather a range of equally valid alternative solutions; and *fourthly*, a need for involvement of all those affected by the system. All of these characteristics are in contrast to that of hard systems.

Checkland (1981) cites the work of Churchman (1968) and Ackoff (1974) as the foundation of the soft systems methodology (SSM). SSM was developed as a consequence of the traditional methods of systems engineering based on defining goals and objectives, which basically did not work when applied to messy, ill-structured, real-world (*Weltanschauungen*) problems and specifically those systems which included a human activity component. In the soft systems paradigm, causes of a problem in a situation are not easily identifiable. There will often be numerous different solutions to the problem, each of which has a varying measure of importance according to its stakeholder. I am in support of this methodology as I believe that we generally tend to bring our own “world view” to any situation of enquiry. A further discussion on SSM will be found later in this chapter.

The third wave as described by Midgley (2000:204) is Critical Systems Thinking (CST) which is built upon two foundation stones: Jackson and Keys’s (1984) argument for methodological pluralism and Ulrich’s (1993) social theory and systems methodology. This third wave emphasized the value of both the first and second wave and shifted attention to how one can exercise choice among the wide range of systems methods in a critical and systemic manner. The contemporary systems thinking movement has been enriched by the ideas of CST through the work of Ulrich (1983), Jackson (1991), Flood and Jackson (1991), Jackson (1992), Jackson (2008) and Flood and Romm (1995). CST is also considered by a growing number of researchers as a viable approach to address complex problems.

Reynolds and Holwell (2010:10) mention that CST shares the same epistemological shift as the soft systems tradition but addresses some of the perceived inadequacies in both hard and soft systems thinking and most notably, the inadequate consideration of power relations. It is important to note that CST is in itself not a methodology but rather the intention is to foster systemic debate on power relations and on the relationships and complementarity between various systems approaches. Critical systems thinkers are of the opinion that the world by default is not harmonious. In order to comprehend, explain and institute possible changes, one must think in terms of contradictions.

According to Midgley (2000:73) critical systems thinking is underpinned by the philosophy of Habermas, who claims that all human beings have three fundamental interests: a “technical interest” in predicting and controlling our natural and social environment, a “practical interest” in pursuing mutual understanding, and an “emancipatory interest” in freeing ourselves from constraints imposed by power relations. According to Jackson, “critical systems thinking is dedicated to human emancipation and seeks to achieve for all individuals the maximum development of their potential. The belief here is that this can be achieved by raising the quality of work and life in the organizations and society in which they participate” (Jackson, 1991:185). Midgley (2000) and Mingers (2001) use Habermas’ theory of “three worlds” to support methodological pluralism while Flood and Jackson (1991) use Habermas’ theory of knowledge-constitutive interest and Ulrich (1983) uses Habermas’ theory of communicative action.

Jackson (1991:184) discusses five main features of critical systems thinking. *Firstly*, it seeks to demonstrate critical awareness. Critical awareness is a judicious examination of the assumptions and values of an existing system. CST aims to provide the tools for enhancing this type of critical awareness. The understanding of the strengths and weaknesses and the theoretical underpinnings of available systems methods, techniques and methodologies should be considered. *Secondly*, CST shows social awareness. The implication here is that there exist pressures from organizations and society which lead to certain systems and methodologies becoming popular for guiding interventions at particular times. Systems practitioners should also be sensitive to the consequences of the approaches they employ. *Thirdly*, CST is dedicated to human emancipation. Maximum development of an individual’s potential is what CST seeks to achieve. This is achieved by raising the quality of work and life in the organizations and societies in which they participate. Following on the work of Habermas as mentioned previously, methodologies aim to promote and improve the technical, practical and emancipatory interest in organizations and society. *Fourthly*, CST is committed to the complementary and informed development of all the different strands of systems thinking at the theoretical level. The implication here is that

although different strands of the systems movement express different rationalities, which stem from alternative theoretical positions, all points of view must be respected. *Fifthly*, CST is committed to the complementary and informed use of systems methodologies in practice. What is required is a methodology that respects all of the other four features. The System of Systems Methodologies (SOSM), proposed by Jackson and Keys (1984) is an ideal-type grid of problem contexts to classify systems methodologies according to their assumptions about problem situations. Jackson (1991) says that the System of Systems Methodologies is not itself associated with the critical approach or any other particular strand in systems thinking. The philosophical underpinnings of SOSM are based upon Habermas' theory of knowledge constitutive interests.

Table 4.1 System of Systems Methodologies (adapted from Jackson 1991:29)

| | | PARTICIPANTS | | |
|--|---------|---|---|--|
| | | UNITARY | PLURALIST | COERCIVE |
| <i>P</i> <i>R</i> <i>O</i> <i>B</i> <i>L</i> <i>E</i> <i>M</i> <i>S</i> | SIMPLE | Simple – Unitary Hard Systems Thinking | Simple - Pluralist Soft Systems Thinking | Simple – Coercive Emancipatory Systems Thinking |
| | COMPLEX | Complex – Unitary Organizational Cybernetics | Complex- Pluralist Soft Systems Thinking | Complex- Coercive Emancipatory Systems Thinking |

The SOSM was a framework developed to enable managers to select an appropriate methodology with which to address a particular problem situation. The first axis of the grid in Table 4.1 (based on Jackson, 1991 and Jackson, 1995) is used to plot the perceived nature of the relationship between the participants in a problem situation. People are considered to be in a unitary relationship if there is genuine agreement amongst participants as to what a problem is, how it is to be solved, and what

acceptable outcomes are possible. In a pluralist relationship, there are different possibilities, interests, and objectives. Nevertheless, it seems likely that compromise or consensus can be achieved. In coercive or conflictual relationships there is fundamental conflict with no possibility of compromise and an outcome can only be achieved by the exercise of power.

It is then possible to align the contemporary systems approaches to the model of SOSM (Jackson, 1991). This implies the following (Flood and Jackson, 1991):

1. The simple-unitary cell will contain Operations Research, Systems Analysis, Systems Engineering, and Systems Dynamics.
2. The complex-unitary cell will contain the Viable Systems Model (VSM), General Systems Theory, Socio-Technical Systems Thinking, and Contingency Theory.
3. The simple-pluralist cell contains Social System Design and Strategic Assumptions Surfacing and Testing Approaches.
4. The pluralist-complex cell contains Interactive Planning and Soft Systems Methodology.
5. The simple-coercive cell has Critical Systems Heuristics.
6. The complex-coercive cell is said not to have any approach, since there are no known methodologies that can support such a problem situation.

Some of these contemporary systems approaches have been identified for their fit to this study and are discussed later. There are two strands in critical systems thinking. The first is called Critical Systems Heuristics (CSH) by Ulrich (1983) and the second is called Critical Systems Thinking UK type, and its operationalization is known as Total Systems Intervention (TSI), a meta-methodology for creative problem solving (Flood and Jackson, 1991). Both of these approaches will be discussed in the following sections.

4.4 CRITICAL SYSTEMS HEURISTICS

Critical systems heuristics is said to represent the first systematic effort at providing both a philosophical foundation and a practical framework for critical systems thinking. Werner Ulrich (1983) in his book *Critical Heuristics of Social Planning: a new approach to practical philosophy*, displayed a strong critique against what he envisaged as a credibility gap in both the hard and soft systems approaches. He noted unambiguously that the systems approaches did not allow for a critical reflection *firstly*, by hard systems thinking upon the goals attained and *secondly*, by soft systems thinking upon the nature of the consensus achieved and the changes brought about. As a consequence, Ulrich proposed Critical Systems Heuristics (CSH). CSH contrasts with hard and soft systems approaches, in that it reflects critically upon the goals that have been attained through these systems approaches and the nature of the consensus which has been achieved.

The aim of CSH, which draws upon the ideas of Churchman (1971, 1979) is to provide individuals a voice in matters that are of importance to them. This is in support of the definition of social planning as the art of promoting improvement. CSH has been applied to a wide range of significant contexts ranging from health care planning, city and regional planning, and energy and transportation planning (Ulrich, 1987:276) to enhancing prison service support (Flood and Jackson, 1991), and towards promoting an alternative lens for corporate responsibility (Reynolds, 2008:384), as well as informing international development initiatives (McIntyre-Mills, 2004; Reynolds, 2008:386).

Critical Heuristics introduces “critique” into the notion of planning, and gives it an emancipatory part to play on the basis of Kant’s Critical Philosophy and the Theory of Communicative Action by Habermas (Ulrich, 1996:13). Ulrich views it not as a self-contained method of planning, but rather it seeks to complement and change other approaches in such a way as to render them more self-critical and to emancipate ordinary people from those who practise the approaches in question.

An important concept in the work of Ulrich’s theory is boundary judgements. These judgements are the facts and values to be considered that define the boundaries of the

planning effort. Another notion is that of justification break-offs, which specify what is to be omitted because they define the point at which justification ends. It has to be noted that there is an interdependence of facts and values. Ulrich (1996:17) suggests boundary judgements are a core concept of systems thinking, the fundamental critical seed of systems thinking.

Midgley (1996) elaborated on Ulrich's notion of boundary judgements and proposed "boundary critique," which entails making judgements about what should be included and what should be excluded from the intervention, implying that the boundaries of systems designs must be fully explored and identified prior to implementation. The boundaries here refer to social or personal constructs that define the limit of knowledge that is to be taken as important in an analysis. Following on the work of Midgley, researchers should remain cognizant of the need to access a diverse variety of stakeholders' views in defining problems and to acquire relevant information.

CSH is a systems methodology that attempts to unpack the "normative content" of actual and proposed systems designs. By "normative content" Ulrich refers to both the value assumptions that underpin intervention as well as the consequences such intervention will impose on both participants and non-participants. CSH uses a conceptual framework that consists, among other things, of a set of twelve basic types of boundary judgements which can be put together as a checklist that allows planners and systems designers to obtain the normative content of the proposed designed system (Ulrich, 1996; 1998) see table 4.2.

Table 4.2 The boundary categories and questions of CSH (Adapted from Ulrich, 1996:44)

| Sources of influence | Boundary judgements informing a system of interest (S) |
|----------------------|--|
|----------------------|--|

| | <i>Social roles (Stakeholders)</i> | <i>Specific concerns (Stakes)</i> | <i>Key problems (Stakeholding issues)</i> | |
|------------------------------|--|--|---|---------------------|
| Sources of motivation | 1. <i>Beneficiary</i> Who ought to be/is the intended beneficiary of the system (s) | 2. <i>Purpose</i> What ought to be/is the purpose of S? | 3. <i>Measure of improvement</i> What ought to be/is S's measure of success | The involved |
| Sources of control | 4. <i>Decision maker</i> Who ought to be/is in control of the conditions of success of S? | 5. <i>Resources</i> What conditions of success ought to be/are under the control of S? | 6. <i>Decision environment</i> What conditions of success ought to be/are outside the control of the decision maker? | |
| Sources of knowledge | 7. <i>Expert</i> Who ought to be/is providing relevant knowledge and skills for S? | 8. <i>Expertise</i> What ought to be/are relevant new knowledge and skills for S? | 9. <i>Guarantor</i> What ought to be/are regarded as assurances of successful implementation? | |
| Sources of legitimacy | 10. <i>Witness</i> Who ought to be/is representing the interests of those negatively affected by but not involved with S? | 11. <i>Emancipation</i> What ought to be/are the opportunities for the interests of those negatively affected to have expression and freedom from the worldview of S? | 12. <i>Worldview</i> What space ought to be/is available for reconciling differing worldviews regarding S among those involved and affected? | The affected |

The framework has four categories by which Ulrich (1996:44) coins sources of: motivation, control, knowledge and legitimation. Each question can be answered from different perspectives, not only from the standpoint of those involved, but also from the viewpoint of those concerned and potentially affected. Ulrich (1996:35) states that this is another key concept of critical heuristics, the process of unfolding the normative and empirical selectivity of plans.

As a criticism, Ellis, Gregory, Mears-Young and Ragsdell (1995:211) are of the opinion that CSH is over-theoretical and lacking in usefulness with respect to “real-world” problem situations. Furthermore, in a coercive or oppressive situation, people tend not to disclose their views or feelings for fear of victimization, rebuke or reprisal.

4.4.1 TOTAL SYSTEMS INTERVENTION: VERSIONS ONE AND TWO

Total Systems Intervention (TSI), developed by Flood and Jackson (1991), is based on the principles of the System of Systems methodologies discussed earlier. TSI can be considered as a meta-methodology in that it advocates the use of all systems theories and methodologies in an informed as well as a complementary manner. Hames (1994:172) claims that TSI “allows for the examination of every dimension of strategy, the surfacing of all significant issues and the design of appropriate interventions” and Attwater (1999:301 refers to TSI “as a critical basis for considering the assumptions underlying the range of systems methodologies”. Its initial form, (referred to as TSI (*version one*) according to Midgley 1997)), exercised a three-phase process as originally defined in Flood and Jackson (1991:51):

Creativity, which is the first phase, uses different metaphors that best describe the organization in question. This phase involves idea generation, (eg. “think tanks”), image generation (metaphors), and reflective evaluation. The problem-solver gains insight into the organization in review and begins to think about the appropriate intervention methodology to employ.

During Choice, which is the second phase, one will select the appropriate one or a set of methodologies to suit particular characteristics of the organization’s situation. The choice is based on the strengths and weaknesses of a systems methodology through the analysis of its role in the System of Systems Methodologies as discussed above. Flood and Jackson (1999:42) warn that “Choice” should be informed by the process of SOSM and not determined by it. Once the intervention system is chosen, it is then passed on to the implementation phase.

Implementation, which is the final phase, is involved in employing the methodology into generating specific proposals for change. The main tasks in this phase are to eliminate the problems identified in the creativity phase and the introduction of systemic development or improvement within the organization.

Midgley (1996) discusses at length the shortcomings of TSI (*version one*). The following are the highlights of Midgley's criticisms:

- The complementarism of TSI is not well conceived. He argues that TSI draws upon the various systems methodologies without illustrating how the different assumptions and epistemologies embodied by the systems methodologies are integrated methodologically.
- The TSI metaphorical grid prescribed by Flood and Jackson (1991) is too restrictive and dissuades problem-solvers from generating their own metaphors and conducting their own metaphorical analysis of the problem organization.
- The SOSM is very difficult to follow and is inaccessible to non-academics.
- The SOSM with TSI does not take into consideration the methodological developments in the various systems discourses. It deals with the individual systems methodologies as though they are hard-and-fast.

Mingers (1996:3) also provides serious criticism of several aspects of Total Systems Intervention. He raises the issue that the theory on which TSI is based, Habermas' Theory of Knowledge Constitutive Interests (KCI) has been criticized, and is no longer used by Habermas himself. Another weakness indicated by Jackson (1997) is that TSI emphasizes the use of "whole" methodologies. A noteworthy weakness according to Jackson (1997:370) is TSI's complacency about being able to operate "above the paradigms".

The above criticism steered Flood to explore further developments of TSI which resulted in the development of TSI (*version two*) sometimes referred to as the Local Systemic Intervention (Flood, 1995). TSI (*version two*) includes the three phases within TSI (*version one*) as well as three modes into the process of problem solving (Flood, 1995):

- Critical review mode when appropriate methods are evaluated for the potential to be employed in a problem situation.

- Problem solving mode in which the three phases of TSI are present in a recursive form;
- Critical reflection mode to ponder upon the intervention and the methods employed.

TSI works with the assumption that all problem solving methods are complementary and the process of TSI is to enable problem solvers to select an appropriate method(s) to deal with problem situations.

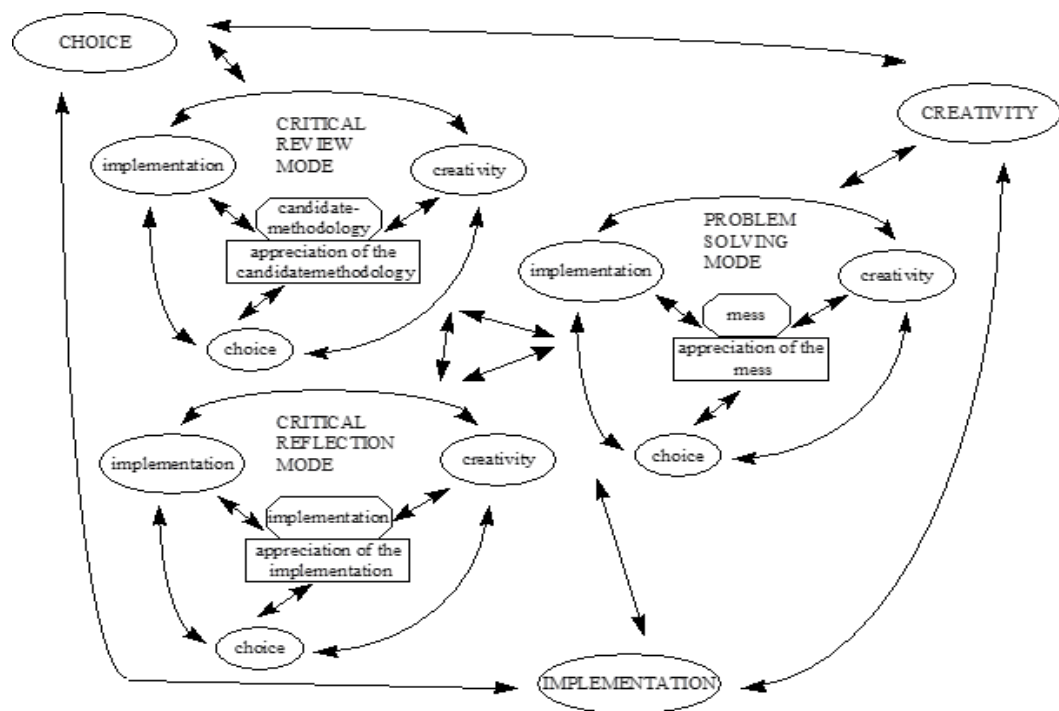


Figure 4.1 The process of Total System Intervention TSI (Wilby, 1996:233)

Process of TSI Version Two

The process works in both clockwise and anticlockwise directions. According to Flood (1995:331) the clockwise direction is the problem solving mode and follows the description of creativity, choice and implementation. The anticlockwise mode is reflective and provides procedures that enquire two things about each phase (i) is the

output of the method “right”? and (ii) was the method chosen the “right” one? The focus of each of these three phases is:

- The creativity phase has creative thinking at its main aim but also considers making choices about what the fundamental issues are and requires this to be implemented.
- The choice phase has choice of the right method as its main focus but also requires creative thinking about methods and whether the methods are suitable.
- The implementation phase has implementation of change proposals as its main focus, but considers creative use of the methods to arrive at change proposals, and choice to make sure that the right alternatives are implemented.

TSI version two differs from version one in the following ways. TSI version two is a recursive methodology. This implies that all the phases of the TSI approach are represented at the micro-level within each of the macro-level modes. Flood addressed the criticism leveled at version one about the metaphorical analysis being too restrictive; he introduced three things in order to encourage TSI practitioners to generate their own metaphors: (i) “divergent” metaphorical analysis; (ii) the use of creativity-enhancing techniques such as brainstorming and idea writing; and (iii) an understanding of the “ergonomics of reflection” (Flood, 1995:183). TSI Version Two added three modes of operation into its process:

Critical review mode reviews critically methods that might be incorporated in the problem solving mode in the following way. It reviews methods using the three phases of TSI to judge to which of the three phases the method contributes. It reviews elements that fall into the implementation phase by assessing and categorizing their main purpose and this in turn prepares the way for the choice phase in the problem-solving mode.

Problem-solving mode employs methods brought together through the critical review mode. During this mode, one should think creatively about the problems encountered, choose the right methods to address the problems in the circumstances, and use the

chosen method(s) to develop and implement innovative change proposals that address the problems.

Critical reflection mode uses the three phases of TSI to reflect upon the adequacy of the problem-solving mode. It queries if the right method(s) were used and if the output of the method(s) was right?

Flood (1995) abandoned the use of the System of Systems Methodologies as a basis for the second version of TSI, with the main intention of making the second version more accessible to practising managers and emphasizing its orientation to consultancy work. This subsequently raises the issue of how critical TSI is in its emancipatory mission if it is considered in Flood (1995) to be a powerful force for effective management (Mingers, 1996:4).

Jackson (2001:241) provides some guidelines, which are based on the expansion of the work undertaken by Checkland and Scholes (1990), which must be considered when selecting a systems methodology according to a particular rationale. The rules for generic systems methodologies are based upon functionalist, interpretive and radical rationales.

Table 4.3 Summary of systems thinking methodologies (Jackson, 2001:241)

| Hard (functionalist) methodology | Soft (interpretive) methodology | Emancipatory (critical) methodology |
|---|--|--|
| An assumption is made | No assumption that the | An assumption that the real |

| | | |
|--|--|---|
| that the real world is systemic. | real world is systemic. | world can become systemic in a manner alienating to individuals and/or groups. |
| Analysis of the problem situation is conducted in systems terms. | Analysis of the problem situation is designed to be creative and may not be conducted in systems terms. | Analysis of the problem situation is designed to reveal who is disadvantaged by current systemic arrangements. |
| Models aiming to capture the logic of the situation are constructed enabling us to gain knowledge of the real world. | Models are constructed which represent some possible “human activity systems”. | Models are constructed which reveal sources of alienation and disadvantage. |
| Models are used to learn how best to improve the real world and for the purposes of design. | Models are used to interrogate perceptions of the real world and to structure debate about changes which are feasible and desirable. | Models are used to enlighten the alienated and disadvantaged about their situation and to suggest possible improved arrangements. |
| Quantitative analysis is useful since systems obey mathematical laws. | Quantitative analysis is unlikely to be useful except to clarify implications of world views. | Quantitative analysis may be useful especially to capture particular biases in existing systemic arrangements. |
| The process of intervention | The process of intervention | The process of intervention |

| | | |
|---|---|---|
| is systematic and is aimed at discovering the best way to achieve a goal. | is systemic, is never-ending, and is aimed at alleviating unease about the problem situation. | is systemic, is never-ending, and is aimed at improving the problem situation for the alienated and/or disadvantaged. |
| The intervention is conducted on the basis of expert knowledge. | The intervention is best conducted on the basis of stakeholder participation. | The intervention is conducted in such a way that the alienated and/or disadvantaged begin to take responsibility for the process. |
| Solutions are tested primarily in terms of their efficiency and efficacy. | Changes that might alleviate feelings of unease are evaluated primarily in terms of their effectiveness, elegance and ethicality. | Changes designed to improve the position of the alienated and/or disadvantaged are evaluated primarily in terms of ethicality and emancipation. |

Mingers and White (2010:78) mention that given the huge extent of the systems literature coupled with systems thinking being a tool which can be applied in almost any domain, it is impossible to provide a comprehensive description. Anderson and Johnson (1997:20) substitute the word ‘tool’ for language. Systems thinking language is visual and diagram based; it has a set of precise rules; it translates perceptions into explicit pictures and it emphasizes closed interdependencies. Following is a discussion of systems approaches which have been identified as authoritative paradigms in the area of systems methodologies and their applicability to this study. These approaches have been selected as they each portray a rich interplay between the situation, the systems practitioner and the methodology itself. Reynolds and Holwell (2010:15) believe that this interplay produces a convincing and real sense of

robustness and vigour for each approach. The second reason for selecting these particular approaches is that they each take into consideration the motivation for the use of systems approaches, as mentioned previously, namely: understanding interrelationships, handling different perspectives, and addressing power relations. The approaches will be system dynamics, soft system methodology, the viable system model, and the work system method.

4.5 SYSTEM DYNAMICS

System dynamics (SD) was developed by Jay Forrester and others at the Massachusetts Institute of Technology (MIT) in the late 1950s and early 1960s. The model was based on developments following World War II in the theory of information feedback systems; the understanding of decision-making processes; the use of mathematical models to simulate complex systems and the development of high-speed computing as a means of simulating mathematical models (Maani and Cavana, 2007:16). Forrester (1969, 1975) argued that the behaviour of systems, regardless of their level, resulted from underlying structures of flows, delays, information and feedback relations.

Forrester, by his own admission, states that the SD paradigm acknowledges a high degree of detailed and dynamic complexity of the real world and together with other assumptions, assumes that it is possible to capture the complexity in a model without loss of relevance (Forrester, 1975; Richardson, 1991). The other ontological assumptions of SD outlined by Meadows (1989:70) are that things are interconnected in complex patterns; that the world is made up of rates, levels and feedback loops; that information flows are intrinsic and delays are important elements in the system; and that behaviour arises out of a system's structure. The model is basically used to identify the appropriate levers to eliminate undesirable system behaviour.

There are some basic assumptions that underpin systems dynamics:

- SD defines problems dynamically, usually in terms of graphs and over a period of time.

- SD strives for an endogenous, behavioural view of the significant dynamics of a system.
- SD thinks of all concepts in the real system as continuous quantities interconnected in loops of information feedback and circular causality.
- SD identifies independent stocks or accumulations in the system and their inflows and outflows.
- SD formulates a behavioural model capable of reproducing, by itself, the dynamic problem of concern.
- SD derives understandings and applicable policy insights from the resulting model, and
- SD implements changes resulting from model-based understandings and insights.

From this brief discussion of SD it is evident that this particular study must first identify the appropriate levers to eliminate undesirable system behaviour which leads to unsatisfactory customer service. Secondly, it is imperative that the developed framework is sensitive to the fact that the university by its design is a system that should cater for system dynamics. Thirdly, the use of feedback loops in the development of the framework is critical.

The next popular systems approach is Soft Systems Methodology which is a cyclic iterative approach of enquiry for formulating and structuring thinking about problems in a situation where people have diverse views of the world.

4.6 SOFT SYSTEMS METHODOLOGY

The notion of Soft Systems Methodology emerged as a result of dissatisfaction with the limitations of hard systems thinking (Jackson, 2003:182 and Khisty, 1995:94). Peter Checkland (1981) the founder of Soft Systems Methodology (SSM) continued to present the basic ideas of Churchman's Social Systems Science, Ackoff's Social Systems Sciences including Interactive Planning, Mason and Mitroff's Strategic

Assumptions Surfacing and Testing (SAST), and Vicker's idea of "appreciative systems". The purpose of SSM was to produce a systems methodology capable of dealing with soft problems. Checkland (1995:8) asserts that SSM illustrates that in all problem situations, people are trying to take purposeful action in spite of all the ambiguity, uncertainty, disagreement and conflict.

Lane and Olivia (1998:217) point out that Checkland's SSM has a basic assumption of an interpretative perspective of social settings. Under this perspective, Checkland believes social reality is the "ever-changing outcome of the social process in which human beings continually negotiate and re-negotiate with others their perceptions and interpretations of the world outside themselves" Checkland (1981:283). Reality referred to in this perspective is complex and cannot be assumed to have systemic properties. Hence, Checkland (1985:758) suggests the notion of the adaptive whole. The interpretative view of reality has two crucial implications for SSM studies as it firstly, is difficult for an SSM practitioner to accept a unique definition of a problem and secondly, the models built in SSM do not attempt to describe the real world nor are they intended to be used as normative models. In addressing these crucial implications, Checkland uses the term "*Weltanschauung*", a particular world-view, to capture the interpretive stance that practitioners should adopt in order to define and interpret a problem. SSM focuses not only on the objectives and solution to a particular problem but, in addition, provides a methodology to explore, query and learn about ill-structured problem situations. Instead of being based upon the paradigm of "optimization", SSM is rather founded on the paradigm of "learning". This learning is later explained in Figure 4.1. The modeling process embedded in SSM generates "holonic ideal types" of organized human behaviour under a particular world-view (Lane and Olivia, 1998:217). As a result, several models are used to explore the problem situation under different perspectives. These models represent "human activity systems", and Checkland recognized this as one of the most important advances in the development of SSM.

The original methodology was a seven stage process of analysis which used the concept of a human activity system as a means of getting from "finding out" about a

situation to “taking action” to improve the situation (Checkland and Scholes, 1999:22). The purpose of stages 1 and 2 is to find out what the problem is. This is summarized in a “rich picture” which expresses the features of the situation. Petkov, Petkova, Andrew and Nepal (2007:1619) cite that rich pictures are cartoon-like images that capture the structure of a problem, the processes involved and the relationships between structure and processes. Checkland and Scholes (1999:24) believe rich pictures are a better means for recording relationships and connections than is linear prose.

In stage 3, the root definitions are formulated by identifying six *CATWOE analysis* elements:

- Customers: the victims or beneficiaries of the purposeful activity.
- Actors: those who would perform the activities.
- Transformation process: the core of the purposeful activity transforming an input into an output.
- Weltanschauung: the view of the world that makes the root definition meaningful in context.
- Owners: who can abolish or stop the activity.
- Environmental constraints that affect the situation

In stage 4, the root definitions are used to construct conceptual models. These conceptual models are constructed by drawing out the minimum number of verbs that are necessary to describe the activities that would have to be present to carry out the tasks named in the root definition. In the fifth stage, the models are compared with reality. The aim here is to provide material for debate about possible change among those interested in the problem situation. The final stage involves the implementation of changes that are both desirable and feasible.

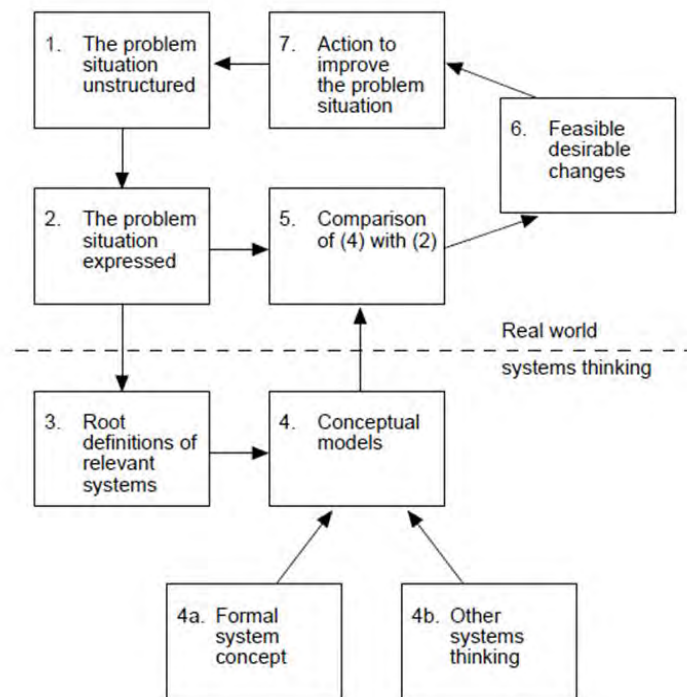


Figure 4.2 The Learning Cycle of soft systems methodology (adapted from Checkland (1989:84))

Recent revisions give a more sophisticated and flexible view of the process (Checkland and Scholes, 1990; Checkland and Winter, 2006), which brings together two streams of enquiry – cultural analysis and logic-based enquiry. Cultural analysis involves an interrelated model of roles, norms and values. Checkland argues that these three phenomena – roles, norms and values, interact with each other. Each continually defines, redefines and is itself defined by the other two (Checkland and Scholes, 1990:49). The formulation of SSM Mode 2, known as the two-stands version of SSM was a result of the original seven-stage representation being too restrictive. The two-stands models of SSM shown in figure 4.3 provides equal attention to a “stream of cultural analysis” compared to the logic-based stream of analysis that dominated the seven-stage version. In the book, *Systems Thinking, Creative Holism for Managers* Jackson (2003:189) alludes to the enhanced cultural analysis in the two-stands version of SSM taking the form of three types of inquiry, referred to as Analyses 1, 2 and 3. Analysis 1 contemplates the intervention and the role of client, problem-solver and problem-owner. Analysis 2 interrogates the social

system and looks at the roles, norms and values. These three elements are assumed to be in constant interaction with each other and to be regularly changing. In Analysis 3, the politics of the problem situation and how power is obtained and enforced is examined.

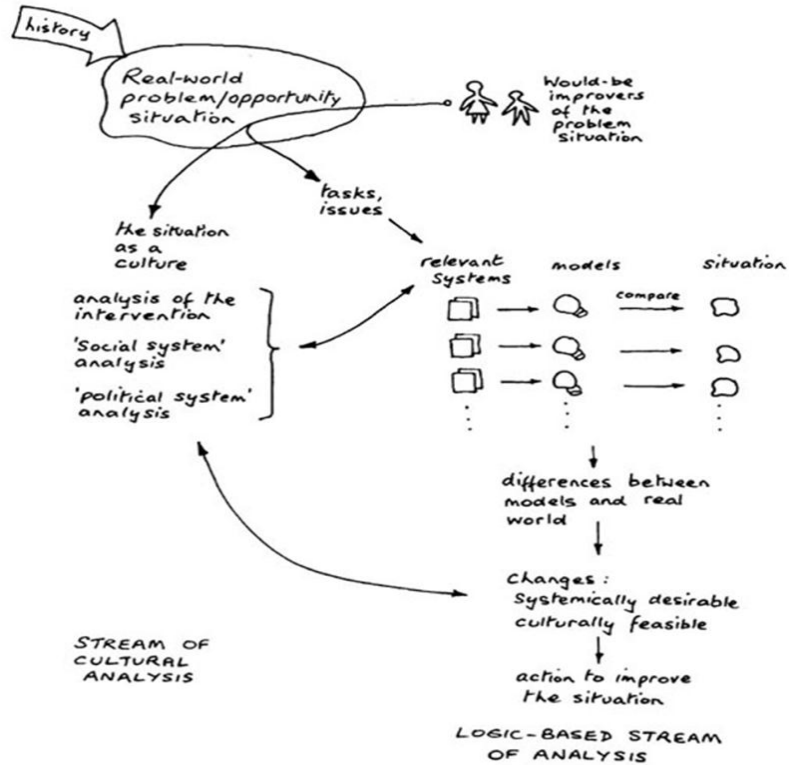


Figure 4.3 The two-strands version of SSM (Checkland and Scholes 1999:29)

Checkland acknowledged that the meaning of the dividing line between the “real world” and the “systems thinking world” of the seven stage model was “heuristic rather than theory-based” and it implies a “false dualism” which soft systems practitioners need to move beyond (Tsouvalis and Checkland, 1996). As can be seen in the revised model above, the dividing line is removed although the idea is still encapsulated in the form and the language used in the model. Mode 2 of SSM changed the focus to that of a learning system. The emphasis in Mode 2 was that of situation driven compared to methodology driven in Mode 1; Mode 2 concentrated on interaction within a system as opposed to intervention purported in Mode 1. The process in Mode 2 is always iterative compared to Mode 1 which is sometimes

sequential, and SSM in Mode 2 is seen as an internalized model, whereas SSM in Mode 1 is considered an external recipe.

4.6.1 CRITIQUE OF SOFT SYSTEMS METHODOLOGY

Although SSM has been widely used in practice (Munro and Mingers, 2004:370) and has become a topical research area, there are a number of criticisms leveled at it. Jackson (2003:203) cites the main criticism of Checkland's SSM as that it has a limited domain of applicability and fails to recognize it. SSM has been criticized for not being well suited to deal with problem situations in which organizational design of complex systems is required or whereby there is significant conflict or coercion occurring. Flood (2010:279) mentions that the main criticism of SSM is its neglect of certain difficulties in achieving open and meaningful debate. It is noted that SSM has little to say in its principles about knowledge-power and the way this distorts the outcome of debate (Flood and Jackson 1991; Jackson 1991).

Jackson (1991:162) argues that soft systems' thinking is set predominately on a consensus world view. The critique here is that the social world is at times characterized by asymmetry of power, structural conflict and contradiction. In SSM it is evident that soft systems thinkers take the possibility of participation for granted, but overlook the obstacles to participation and free and open discussion that may occur as a consequence of power struggle relationships between the stakeholders. Jackson (1991) also criticizes soft systems thinking for its subjectivism or its idealism and for its consequent failure to come to terms with structural features of social reality as causes of conflict and power struggles.

SSM in general terms, is a participative, iterative approach where involvement from clients and representatives is crucial. However, human behavior is largely unstructured and even though one might be applying a "chosen methodology" according to prescribed procedures for certain tasks, individuals will seldom perform them in exactly the same manner. SSM can also be manipulated by consultants in order to achieve their hidden agendas. It is also further criticized by Jayaratna (1994)

in arguing that SSM does not provide sufficient support in the Choice and Implementation stages of the decision-making process. Finally, it is argued that SSM is not suitable for high-achievers as goals are never reached; only approached.

The principles of SSM will be utilized in the development of this study's framework. The use of CATWOE remains an interesting and vastly utilized problem analysis. Following is a discussion on the Viable System Model as the model that is generally applicable to all systems or organizations large and small.

4.7 THE VIABLE SYSTEM MODEL

The Viable System Model (VSM) is an organizational model developed by Beer (1972, 1979, and 1985). The model was developed from concepts and tools of cybernetic theory with a goal to understand organizations and how to make recommendations to improve their effectiveness. Checkland (1981) claims that cybernetics has been highly influential in the development of systems concepts across many different disciplines. The central idea in Beer's philosophy of VSM is that a system/organization is one which is capable of maintaining a separate existence, of surviving on its own (Beer, 1979:113). Beer's philosophy is built upon the premise of the Law of Requisite Variety (Ashby, 1956). This law specifies that the "variety" of the regulator must equal or exceed the variety of that which is being regulated. This implies that organizations can be interpreted as structures for handling variety. Consequently, the structure of an organization seeking to survive in a particular environment must be well suited to the variety of that environment. Beer claims that an organization can remain a viable system and survive in a potentially hostile environment only if it has the capacity to match all the life-threatening variety states that its environment may display.

Beer's concepts of 'variety attenuation' and 'variety amplification' illustrate the patterns of adaptation whereby organizations attempt to manage proactively their variety and that of their environment. Variety attenuation describes the process of reducing the external variety confronting an organization while variety amplification

describes the process of increasing the number of states between an entity and its receiver (Kawalek and Wastell, 1999:25). A university, for example, can exercise variety attenuation by raising its entrance requirements, and conversely, by decreasing its entrance requirements in accordance with government imperatives to make learning available for all in South Africa, will be demonstrating variety amplification.

The notion of an operational system and a meta-system are fundamental to the configuration of the VSM. This notion of operation and meta-system are recursive in that the combined structure of operational system/meta system at one organizational level together constitute the operational system at another higher level in the hierarchy. The VSM is made up of five elements which are labelled implementation, coordination, control, intelligence and policy. Jackson (2000:158) reveals that System 1 deals with implementation of the tasks that the organization ought to be doing. System 2 is a coordination function. It provides a coordination service to System 1 without which System 1 would be potentially unstable. System 3 is concerned with management control. The function is to steer the organization towards its current objectives. System 4 is concerned with intelligence which enables the organization to learn and adapt. System 5 sets policy. The values and beliefs adopted through System 5 should be shared with all other elements of the organization.

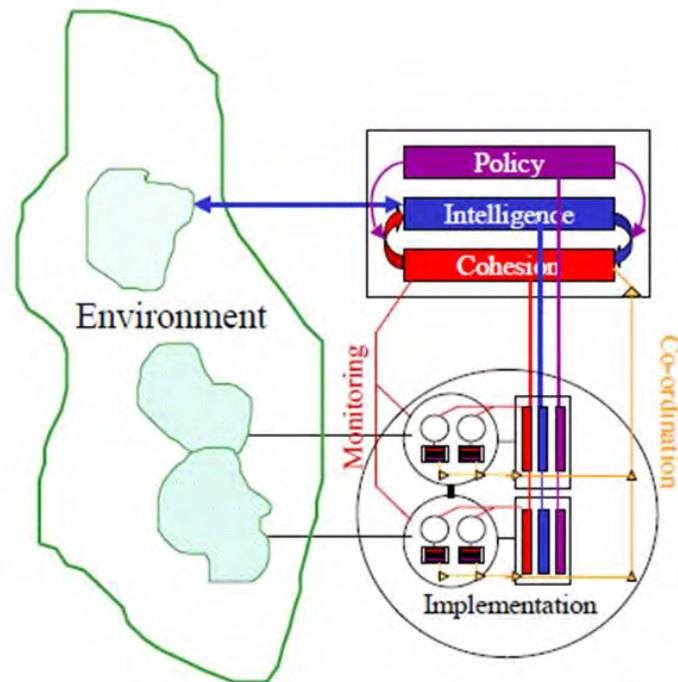


Figure 4.4 The Viable System Model (adapted from Beer 1985)

The rationale for selecting the VSM model for discussion is based on the research objective of this study, *viz.* to analyze methodologies that might be applicable for the evaluation of academic departments. A university to a large extent is seen as a large organization. Beer (1985; 1989) claims that not only is VSM a powerful tool for organizational design, but it is also a successful diagnostic tool. In light of Beer's VSM, the organization is portrayed as an open system with close interaction with the environment in which it operates. This is specifically the case of a university being an open system having close interaction with the environment in which it operates. Although VSM has been applied to a variety of situations (See Britton and Parker, 1993; Flood, 1990; Espejo, Bowling and Hoverstadt 1999; Hoverstadt, 2009) there are some caveats in adopting the methodology. Ulrich (1981; 1983) criticized the model on the grounds that control can be exploited by an elite group in an organization. Checkland (1981; 2000) argues that VSM does not provide adequate ways of engineering the process of negotiation between the different viewpoints making up the organization. Some of the principles of VSM will be adopted in the development of a systemic framework which is the basis of this study.

The final methodology to be analyzed in this study will be the work system method.

4.8 WORK SYSTEM METHOD

A relatively recent approach to systems thinking is the Work System Method. According to Alter (2007a:34) the work system method (WSM) represents a systems approach as it describes a situation as a system consisting of interacting components that operate together to accomplish a purpose. Alter (2002:90) states that the WSM is a broadly applicable set of ideas that use the concept of “work system” as the crucial point for understanding, analyzing, and improving systems in organizations. The WSM is organized around a typical problem solving process of defining a problem, gathering and analyzing relevant data, identifying alternatives, and selecting a preferred alternative. Alter (2008a:451) states that a work system is a system in which human participants or machines perform work using information, technology, and other resources to produce products and services for internal or external customers. According to Alter (2002:91) the WSM is designed to be quite flexible. It provides usable guidelines and analyses concepts while simultaneously permitting the analysis to occur in whatever order and level of detail is appropriate for the task at hand. One of the advantages of WSM is it provides steps which can be used to clarify a system-related issue, identify possible directions for change, and produce and justify recommendations.

According to Alter (2008a:448) service systems produce all services of significance and scope, yet the concept of a service system is not well articulated in the service literature. Alter (2008b:72) proposes that a service system is a useful fundamental unit for understanding, analyzing, and designing services. Alter (2008b:73) proposes a work system framework for service organizations (which is an extension of his original ideas to service organizations) which is applicable to a wide range of services. The Work System Framework provides a rich and broadly applicable model of how services operate and evolve. It creates a platform for comparing service situations, identifying important special cases of services, and describes service-design strategies.

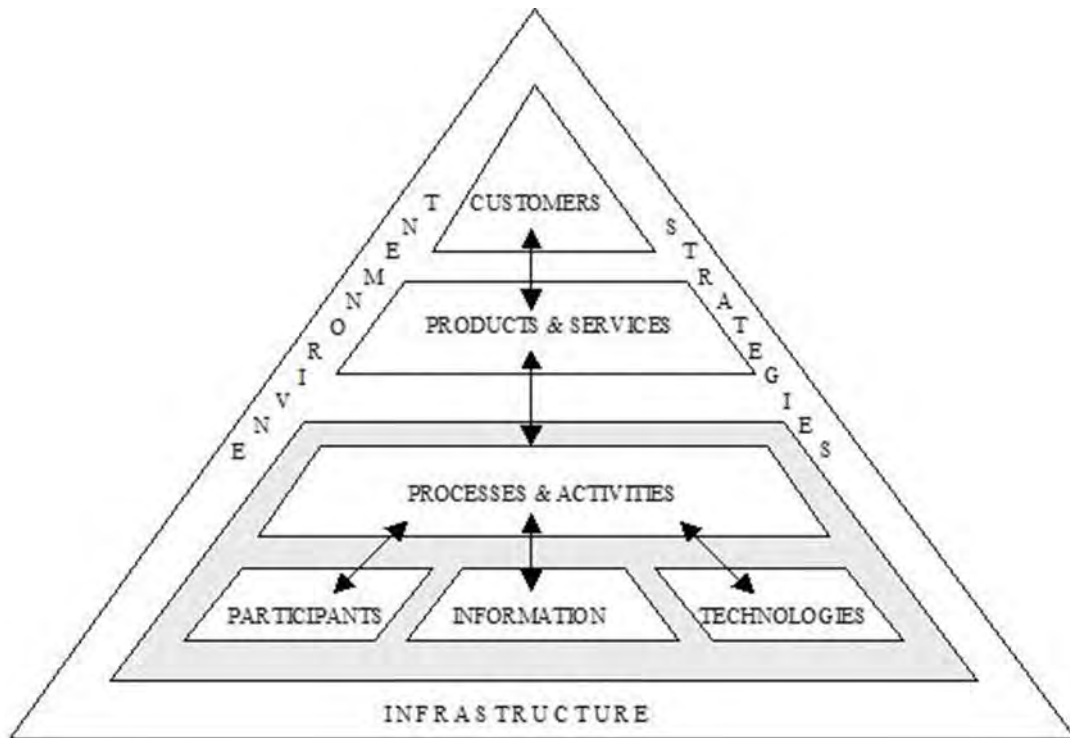


Figure 4.5: The Work System Framework (adapted from Alter, 2006b:13)

The work system method (Alter, 2006b) is grounded on two major components: the work system framework (as shown in figure 4.5) which represents a static description of the work system and the work system life cycle which focus on how a current or proposed work system evolves over time.

The work system framework consists of 9 elements of which 4 are internal and 5 are external elements. The first four elements are the basic components that actually perform the work and these include participants, information, processes & activities and technologies. The five external elements include strategies used by the work system and the organization; infrastructure shared with other work systems; environmental factors that surround the work system; products and services the work system produces and customers for those products and services. The arrows within the framework indicate that the various elements of a work system should be in balance.

4.8.1 Elements of a Work System and its applicability to this study

Alter (2006b:14) describes customers as people who receive, use or derive direct benefit from products and services that a work system produces. Customers include both internal and external customers. External customers receive and use the economic products and/or services that an organization produces while internal customers are employees or contractors who receive and use a work system's products and/or services while performing work. In this study the customers would include students, staff, parents, donors, government, management and employers.

Products and services are the combination of physical elements, information and services that the work system produces for its various customers (Alter, 2006b:14). In the case of a university, the products and services would include tuition, administrative services, and auxiliary services such as counselling, health care, library, financial assistance, accommodation and catering. In addition, there are social products such as student societies, organizations, sport and cultural activities.

Activities and processes entail all the work practices within the work system. Alter (2006b:15) suggests that these activities may combine information processing, communication, decision making, coordination, thinking, and physical actions. The major activities and processes undertaken at a university would include teaching and learning which includes lectures, tutorials and assessments. There are also other activities which will be discussed when undertaking a work system snapshot of a university.

The participants are people who perform the work. At a university the work will be performed by two tiers of staff, *viz.* academic and administrative staff. The academic staff will provide the main activity of teaching while the administrative staff will render institutional support.

Information includes codified and non-codified information used and created as participants perform their work. Technologies are the tools that help people work more

efficiently. At a university the information is vast: from student records to information kept by academic and administrative staff. Technologies would involve computers, software packages, banking facilities, etc.

Alter (2006b:15) mentions that environment includes the organizational, cultural, competitive, technical, and regulatory environment within which the work system operates. Factors in the environment will affect system performance even though the system does not rely directly on them in order to operate. A common environmental element in most South African universities over the past decade has been student unrest and political violence. Government regulations would also impact on the work system as institutions of higher learning report to councils which have been put in place by the Higher Education Act. Another important factor worth noting in this study is the merger of two tertiary institutions with diverse backgrounds having different ideologies.

Infrastructure in the work system method would include human, information and technical resources even though these resources are managed outside of the system and shared with other work systems. At a university this would include the lecture venues, libraries, computer laboratories, etc.

Alter (2006b:16) refers to strategies as the guiding rationale and high level choices within which a work system operates. This would normally entail the vision and mission of a university.

WSM is organized around a typical problem solving process and follows three basic steps. The three basic steps of analyzing a work system are: identify the system and problem (SP), analyze the system and identify possibilities (AP) and recommend and justify changes (RJ). The goal of WSM is to assist practitioners of WSM in understanding systems as well as recognizing the completeness of their understanding, regardless of the order they use for thinking about the situation.

Alter (2006b:22) claims that the WSM can be used at three levels of detail and depth. Level One encourages the user to contemplate the situation at hand in terms of work systems. Level Two provides for each step in the Level one analysis a set of important questions that are relevant to almost any analysis of a system in an organization. These questions serve as a checklist to ensure understanding and completeness of any system analysis. Level Three identifies specific topics that are worth deliberating when answering the questions at Level Two. Checklists, diagrams and templates are provided to organize concepts and knowledge in an easily accessible form. The following table summarizes the steps and three levels of the Work System Method.

Table 4.4 Three levels of the work system method (Alter, 2006b:23)

| | Step One | Step Two | Step Three |
|--------------------------------------|---|--|---|
| Headings in Level One | SP Identify the work system that has the problems or opportunities. | AP Analyze current issue and identify possibilities for improvement. | RJ Make recommendations and justify changes. |
| Questions in Level Two | List five questions about the system and problem. | List ten questions related to analysis and possibilities. | List ten questions related to the recommendation and its justification. |
| Topics and guidelines in Level Three | Checklists, templates and diagrams. | Checklists, templates and diagrams. | Checklists, templates and diagrams. |

The second major component of the Work System Method is the Work System Life Cycle. The Work System Life Cycle (WSLC) is a useful model to help understand how changes occur and how a system evolves over time (Alter, 2006b:89).

4.8.2 The Work System Life Cycle

Alter's Work System Life Cycle (Figure 4.6) illustrates that a work system progresses through multiple iterations of four phases. The first phase is the initiation which involves the process of defining the need for significant change in a work system and provides a general description of the work system changes that will satisfy the need to change. Development is the second phase, whereby the process of defining, documentation, procedures, facilities and other physical informational resources are obtained. The next phase is implementation which involves the process of converting from doing things the old way to the new way and subsequently making a new or modified system. Operations and maintenance is the fourth phase which is the continuous operation of the work system with gradual adjustments, correction of flaws and enhancements. The benefit of the WSLC is that it encompasses both planned and unplanned change.

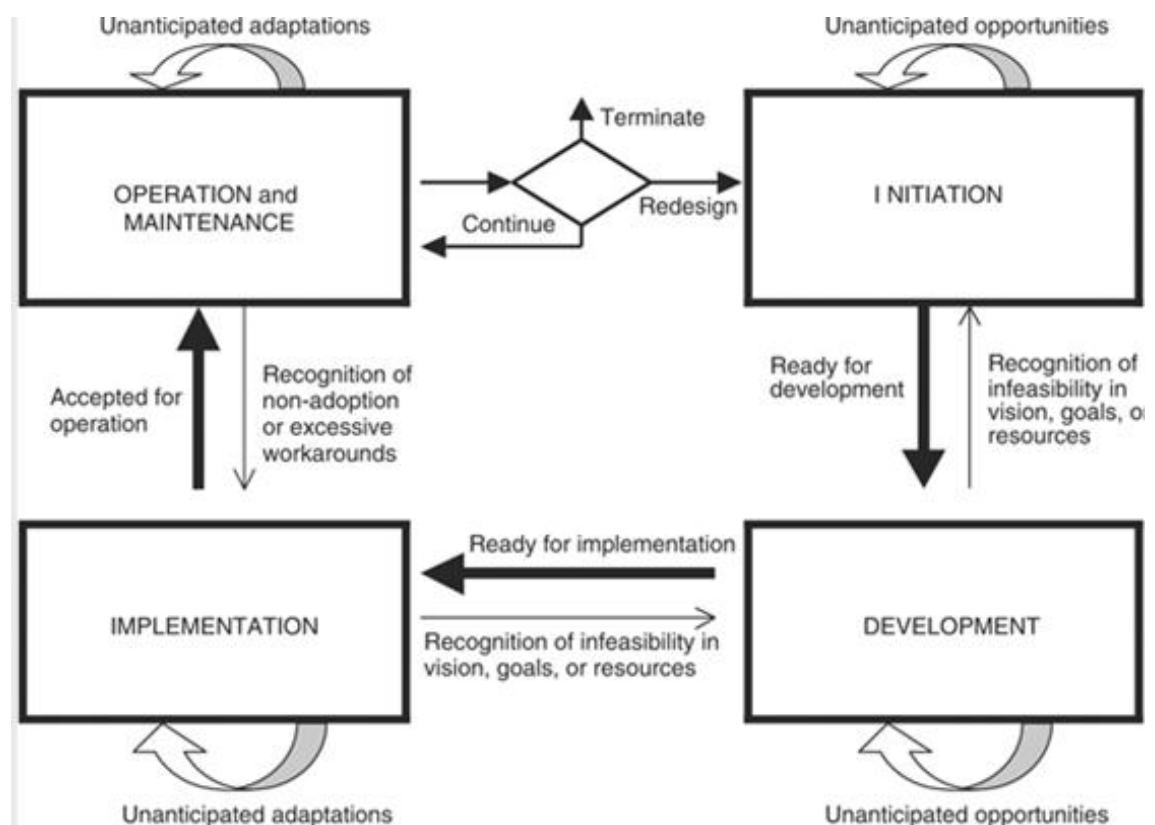


Figure 4.6 The Work System Life Cycle Model (Adapted from Alter, 2006b:91)

The WSLC model places the four phases at the vertices of a rectangle. The forward and backward arrows between each successive pair of phases illustrate the planned sequence of phases and allow the possibility of returning to the previous phase if required. Each phase has an inward curved “adaptation loop” to denote unanticipated opportunities and unanticipated adaptations; this is to encompass both planned and unplanned change.

The analysis of a work system method begins with using a one-page simple and widely applicable tool called a work system snapshot (Alter, 2006b:16). The snapshot is a highly summarized but balanced view of a work system which uses six central elements of what a system is and what it produces.

Alter (2008a:449) claims that the work system method is based broadly on pragmatism. It is also against this background that the work system method has been chosen in this study as the work involved is of a pragmatic view. In considering a university as a service provider operating in a service system, the challenge is to explore the application of systems thinking and the work system framework in relation to the university as a service organization, and more specifically the Work System Method extension for service organizations.

Alter (2008c:6) asserts that the work system framework and work system snapshot apply to service systems as service systems are work systems. A framework developed by Alter (2008b:72) focuses specifically on services, known as the Service Value Chain Framework. As it has been documented that activities and responsibilities associated with services are distinct, the service value chain framework by Alter (2008b:73) extends the work system framework. The framework illuminates the responsibilities for both the service provider (the university) and the customer. The service value chain framework is shown in the figure below.

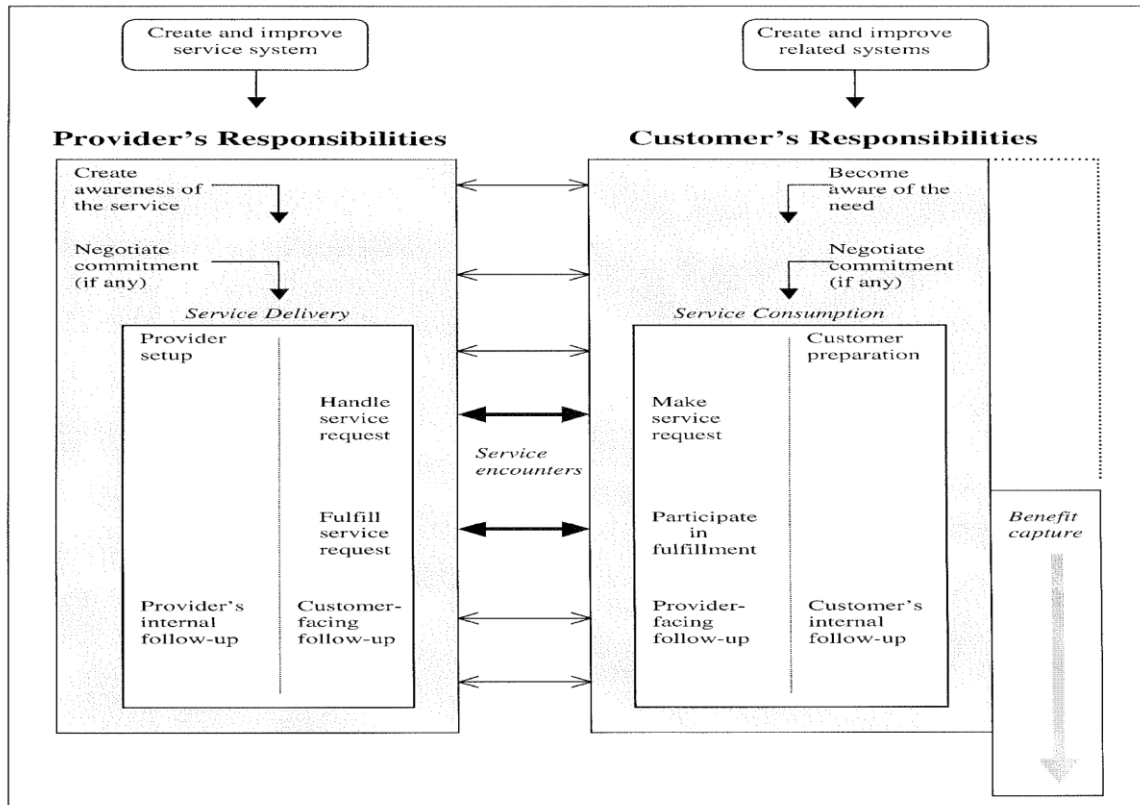


Figure 4.7 The Service Value Chain Framework (Alter 2008c:6)

The service value chain framework is underpinned by the following assumptions outlined by Alter (2008c:7):

- Services are often co-produced by service providers and their customers. Subsequently, in order to gain a comprehensive understanding of a service system, it is important to give attention to the actions and responsibilities of both the service provider and the customer.
- Customers are deemed as individuals, groups, or organizations that receive benefits created by the activities within a service system.
- The identical elementary ideas about services apply regardless of whether services are directed by external customers, internal customers, or both.

- Customer satisfaction is affected by the complete set of activities, responsibilities, and experiences that typical customers associate with acquiring, receiving, and benefiting from a particular service.
- Numerous service situations involve delivery of services based on negotiated commitments (such as service level agreements) under which the service may be delivered continuously or repeatedly in the future.
- For many services, each instance of service delivery includes an explicit or implied service request from the customer.
- Although the fulfillment of a service request is typically viewed as the core of most services, activities related to awareness, negotiation, setup, handling of the request, and follow-up are also important determinants of internal performance and customer satisfaction.
- Services involve front-stage and back-stage activities by both the service provider and the customer.
- Some services require follow-up by the provider and/or the customer.
- The customer may experience benefits as the service is produced and/or may experience benefits later.

Elements of the work system method coupled with some of the elements of the systems approaches previously mentioned will be utilized in the development of this study's framework.

This chapter highlighted the development and evolution of systems thinking. Soft, hard and critical systems approaches were introduced illuminating their strengths and limitations. What is evident from the discussion is that systems thinking is not cast in

stone; it remains an ever changing intellectual discourse. The following is a discussion on the opportunity of linking evaluation to systems thinking.

4.9 LINKING EVALUATION TO SYSTEMS THINKING

Reynolds (2012: 7) asserts that systems thinking is gaining prevalence in the field of evaluation largely to assess complex interventions. During the 1980s numerous classifications were sought to fit evaluation methodologies to their most appropriate contexts. Mingers (2001:25) mentions two main arguments in favour of a multi-method approach. The first argument is that the real world is ontologically stratified and differentiated (Bhaskar, 1994:73), each paradigm focusing attention on different aspects of the situation and so multi-method research is necessary to deal effectively with the full richness of the real world. The second argument is that a research study is not usually a single, discrete event but a process that typically proceeds through a number of phases. Gregory (1994:27) suggests that the development in the search for a meta-methodology for evaluation was the assessment of whether Flood and Jackson's Total Systems Intervention (TSI) represents an appropriate means of facilitating the choice between evaluation methodologies.

Gregory (1996:42) mentions that "there has arisen an awareness that "live" evaluation situations are far too complex to evaluate adequately with a single method". Gregory (2009) asserts that an evaluation can only represent some aspect of reality if it has sufficient variety to capture the complexity of that reality. The situations in the world are not linear, mechanistic and predictable but rather chaotic, complex and unpredictable. It is also uncommon to operate in a simplex, stable situation but rather what is now becoming increasingly common, is to operate in complex environments characterized by many interacting elements, conflict, and diversity. Gregory (2009b:5) warns against designing a system of enquiry such as evaluations where one is far from the ideal and inevitably adopts a partial view. The following are the potential contributions (see Gregory, 2009b:6) that a systems approach is capable of providing:

Fit for purpose: Ashby's (1956) variety theory mentions that simple organizations require simple methods of evaluation whereas complex organizations require complex methods. In both scenarios the method should be designed with the purpose of capturing a whole systems view.

Dynamic: Most evaluation approaches are relatively static and are only dynamic if a snapshot of an organization at one point in time is compared with it at another point in time. This approach is also not conclusive and is unable to explain potential differences between the two. Gregory (2009b:6) claims that a form of evaluation that includes a technique such as System Dynamics should provide an understanding of the dynamics of the organization and its broader context.

Capture the emergent: The performance of any system is a product of synergistic relations between the parts and not the parts operating in isolation. A systems approach would be open to capturing unanticipated features, insights or variables and counter-intuitive results.

Environmentally aware: An organization would draw an organization-environment boundary. Often this boundary serves to define what is relevant (internal) to the evaluation and that which is irrelevant (external) to the organization. In so doing it ignores the macro factors (political, economic, legal, and social) that constrain or facilitate the organization's capacity for action and development.

Understands the embedded nature of systems: Previous discussion has shown that systems exist within the context of wider systems. To make an adjustment on one system level impacts on other levels. Consequently, it is important to consider the implications for change at the sub-system, system, and meta-system levels.

Gregory and Jackson (1992:43) recognize that evaluation is essentially an abstract concept and needs to be applied to something. Evaluation theory cannot be said to be an independent body of knowledge. In Gregory's further development of Evaluation theory, in 1996, she acknowledged that her initial approach was overly mechanical.

She then adopted a different stance and advocated using different methods in a parallel manner, while holding a reflective conversation between them (Gregory, 1996:12). More recently, Boyd, Geerling, Gregory, Kagan, Midgley, Murray and Walsh (2007) developed a systemic approach to evaluation. Using Gregory's work as a basis, they made several changes. The model was relabelled to enhance accessibility and three of the models of evaluation were connected in a simple but intuitive ordering.

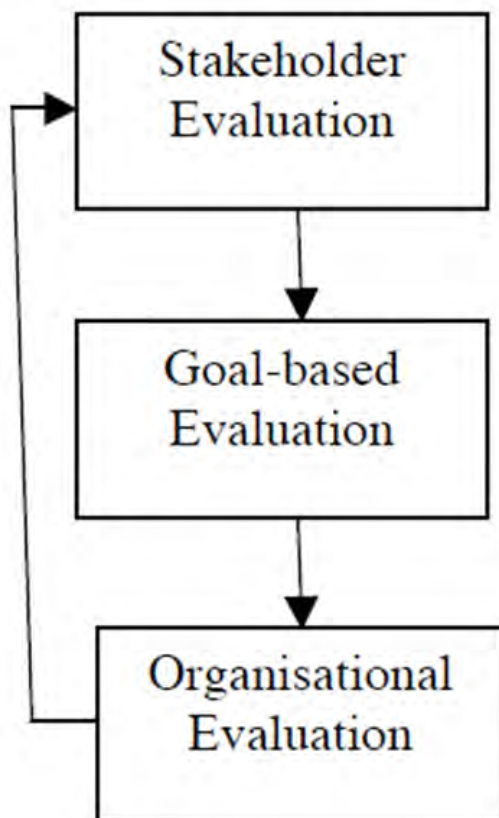


Figure 4.8 The relationship between the Three Approaches to Evaluation (adapted from Boyd et al., 2007:10)

4.10 THE NEED FOR MULTIPLE CRITERIA DECISION ANALYSIS IN THE EVALUATION OF AN ACADEMIC DEPARTMENT AS A SERVICE PROVIDER

According to Stewart (1992:569) because of the increase in complexity of problems, addressed within Operations Research, decision-making goals become increasingly imprecise. Stewart (*ibid*) reveals, “the key philosophical departure point defining Multiple Criteria Decision Making (MCDM) as a formal approach to types of problem solving (or mess reduction), lies in attempting to represent such imprecise goals in terms of a number of individual (relatively precise, but generally conflicting) criteria”.

According to Zimmermann (1991:15) MCDM is divided into Multi-Attribute Decision Making (MADM) and Multi-Objective Decision Making (MODM). From a practical perspective, MADM is associated with problems whose number of alternatives has been predetermined (see Triantaphyllou, Shu, Nieto Sanchez and Ray (1998:176)). The decision-maker is to select/prioritize/rank a finite number of courses of action. On the other hand, MODM is not associated with problems in which alternatives have been predetermined. The decision maker’s main concern is to design a most promising alternative with respect to limited resources (Lai and Hwang, (1994:399)).

Lootsma (1996:37) claims that besides the signs of formation of a Multi Attribute Utility Theory (MAUT), Analytic Hierarchy Process (AHP) and Outranking (French) schools, “we still do not have a shared view on how human preference and human value judgements should be modelled”. An analysis of the literature of these three schools shows very little evidence for attempts to integrate ideas from various schools, with the possible exception of Bana E Costa, Stewart, Vansnick (1995:262). These authors state that two steps are apparent in any decision-making process, which is “based upon the concept of prior articulation of preferences:

- The construction of a criterion model for each fundamental point of view, that is an evaluation model that formally represents the partial preferences of some evaluator(s) according to a single point of view;

- The application and exploration of a multicriteria aggregation procedure that brings together the various criteria into an overall evaluation model, taking into consideration the available information on the nature of preferences between viewpoints “ (Bana E Costa et al., 1995:266).

The same authors observe the notion of preference is made operational by quite dissimilar mathematical representations in each approach:

- In a multi attribute value measurement framework one builds value functions based on the concept of relative strength of preference;
- In multi attribute utility measure these strengths of preference are closely linked to the concept of risk preference;
- In the AHP these preferences are expressed as priorities;
- In the outranking approach pseudo-criteria are constructed on the basis of the credibility of statements such as “action a is at least as good as action b ”.

In the first two cases above, measurable value and utility functions use interval scales; in AHP a decision-maker is asked to express his judgements using a ratio scale, capturing a ratio of priorities; while in the last case, absolute scales are used. The next section provides a discussion on the chosen MCDA method namely Analytic Hierarchy Process (AHP). It also examines the possible application of AHP in the evaluation of an academic department as a service provider and more particularly in the improvement of service quality of a department.

4.10.1 The Analytic Hierarchy Process and its extensions

The Analytic Hierarchy Process (AHP) was initially developed by Thomas Saaty as a multicriteria decision support technique (Saaty, 1990). AHP focuses on the choice phase of Simon’s model of decision-making (Dyer and Forman, 1992:100). AHP has been widely applied as a multicriteria decision making approach in industry, government and academic institutions (see Saaty, 1990). AHP allows decision-makers to structure a complex problem that involves subjective criteria as a decision

hierarchy. The differences between AHP and MAUT have led to heated debates (see Winkler, 1990:248; Salo and Hamalainen, 1997:310). A contentious issue has been the possibility of rank reversal of alternatives in the traditional Analytic Hierarchy Process when using only pairwise comparisons between the alternative factors (Dyer, 1990:257). Saaty (1994:20), using evidence from behavioural decision-making and psychology, indicates that rank reversal is a complex phenomenon that cannot be explained as a weakness of AHP. Saaty (1994:139) points out that there is provision in AHP for rank preservation when one uses the ideal mode (dividing by the priority of the highest rated alternative for each criterion), or when using the absolute mode of rating in AHP.

When dealing with a MCDM problem, the first step is to identify the stakeholders associated with it, their assumptions and values. Then the actual problem needs to be structured. A suitable way for achieving this with many complex issues is to develop a hierarchy. The top of the hierarchy is the main goal, which is decomposed at the second level into several subgoals, reflecting different perspectives of the decision-making process. Each subgoal may be affected by a number of factors, while at the lowest level of the model the alternative choices are introduced. There are alternative ways to structure particular complex issues in a hierarchy, depending on the nature of the problem, described in Saaty (1994:94-107), but the outlined approach is probably the most common.

Table 4.5 The comparison scale used to assess the relative importance of one factor over another element in the original Analytic Hierarchy Process (Saaty, 1990).

| Intensity of importance | Definition |
|--------------------------------|---|
| 1 | Equal Importance |
| 3 | Moderate importance of one over another |
| 5 | Essential or strong importance |
| 7 | Very strong or demonstrated importance |
| 9 | Absolute importance |
| 2, 4, 6, 8 | Intermediate values between adjacent scale values |

The elements in each cluster of the hierarchy are compared in a pairwise manner with relation to their importance with respect to the root of the same cluster. Such comparisons are simpler than having to evaluate the total contribution of a factor towards the main goal, taking into account all subgoals simultaneously. The comparison scale used, as defined by Saaty (1990), has values from 1 – 9 depending on the degree of importance. It is a ratio scale measuring the ratios of intensities of importance of the factors.

4.10.2 AHP and group decision making

Aczel and Saaty (1983:94) established the basis for aggregating group judgements in the AHP. A group support facility is provided in Expert Choice and Team Expert Choice, a software package implementing AHP which was designed by Forman and Saaty (Expert Choice). Saaty (1994) and Dyer & Forman (1992:118) describe the theoretical problems related to the use of AHP as a group decision-making tool. They highlight that when it is possible to reach consensus or a compromise with the group,

one may use the classical AHP procedure. Then the judgements are generated as if a single decision-maker is their originator.

In the event of a compromise not be attained inside the group, in order to apply consensus, Aczel and Saaty (1983) have shown the geometric mean is the uniquely appropriate rule for combining judgements, since it preserves the reciprocal property of the judgement matrix containing the pairwise comparisons.

As mentioned by Petkova (1999:119), in group decision making it is often important to keep the data submitted by each member of the group, while allowing for their subsequent joint processing and integration. Then the most convenient approach for documenting the individual judgements is to use separate clusters of the model for each decision-maker. The separate clusters may be given equal weights, or the weight may vary depending on the standing of the group member and his/her real influence over the final decision.

4.11 CONCLUSION

This chapter provided an analytical review of the systems methodologies most appropriate to this study. This research aims to develop a conceptual framework for the evaluation of an academic department as a service provider based on a multi-method approach (Mingers, 2001). The framework combines several existing techniques from several paradigms in one intervention. It allows methods, models and techniques as parts of different methodologies, from different paradigms, to be brought together according to a particular evaluation process. To the best of my knowledge, the combination of these methodologies and paradigms has not been brought together in the evaluation of an academic department at a UOT. This is explored further in the next chapter.

CHAPTER 5

FORMULATION OF A CONCEPTUAL FRAMEWORK

- 5.1 The nature of the problem of Evaluation of an Academic Department as a service provider
- 5.2 The need for a multi-methodological approach to address the evaluation of an Academic Department as a service provider
- 5.3 Approaches to be included in a conceptual framework for the evaluation of an Academic Department as a service provider
- 5.4 A Conceptual Framework for the Evaluation of an Academic Department as a service provider at a University of Technology
- 5.5 Conclusion

5.1 THE NATURE OF THE PROBLEM OF EVALUATION OF AN ACADEMIC DEPARTMENT AS A SERVICE PROVIDER

The literature survey coupled with discussions in the previous chapters points to the necessity for a holistic approach to the evaluation of an academic department as a service provider. As a university system may be deemed a complex system (see chapter 3), associated with “messy problems” particularly in the area of evaluation, there is a need for a systemic pluralist methodology to address the evaluation of service quality. An analysis of systems methodologies and their applicability to evaluation discussed in the previous chapter, signify a possible complementarity in their strengths with respect to their application in complex situations. The purpose of this chapter is to formulate a conceptual pluralist framework for evaluation of an academic department as a service provider at a university of technology. In planning the framework, one has to consider the following issues which require clarification.

1. Why is it necessary to develop a conceptual pluralist framework for the evaluation of service quality at a university of technology?
2. Is there a need for a multi-methodological approach to tackle the diverse nature of service quality and evaluation?
3. How does one justify the selection of certain methodologies to be used in the framework?
4. What should be the procedure of evaluation of service quality at an academic department?
5. How can the framework be justified and validated from the perspective of the body of knowledge in operational research, systems thinking and service quality?

In an attempt to address question one, the analysis of the current research on evaluation has resulted in the following observations. Firstly, service quality frameworks have generally come under criticism for their composition and their applicability to all service organisations. Secondly, the development and usage of

evaluation of service quality cannot be fully understood without understanding the relationship between the student and the university. Subsequently, a realisation has come about that universities do not operate in silos but in close interaction with the communities which they serve. Thirdly, the evaluation of service quality requires social intervention, and society generally reflects a diversity of culture, values and norms which the intervention should embrace. Fourthly, the current practices of evaluation of service quality at universities is characterised by non-linearity, where a given action can lead to several possible outcomes, hence there is no consistency in the practice due to lack of a systemic framework. Finally, to the best of my knowledge there has been no evaluation framework that has considered techniques of soft systems methodology, system dynamics, viable system method and very recently, the work system method, in the development of a systemic framework for the evaluation of an academic department as a service provider at a university of technology. The rest of the questions are addressed in the following section.

5.2 THE NEED FOR A MULTI-METHODOLOGICAL APPROACH TO ADDRESS THE EVALUATION OF AN ACADEMIC DEPARTMENT AS A SERVICE PROVIDER

A review of the literature indicates that no single approach has successfully addressed the complexities associated with evaluation of service quality at a university. Mingers and Brocklesby (1997:490) point out that there are an enormous variety of approaches all having diverse features and arising from various paradigms based on different philosophical assumptions. Rosenhead (1989:341) warns that while this plethora of approaches can enhance practice, it also poses problems for practitioners who frequently tend to limit themselves to one paradigm or even one methodology. Jackson and Keys (1984:474) through the approach of the system of systems methodology (SOSM) and, subsequently, Flood and Jackson (1999) through total systems intervention (TSI) have attempted to address this problem. The main emphasis expounded in the work of these authors has been that different methodologies are complementary, making different assumptions about the problem situation, and that it

is therefore necessary to make a choice as to which methodology is or which methodologies are, appropriate for a particular intervention.

Mingers and Brocklesby (1997:490) advocate that in order to make the most effective contribution in dealing with the richness of the real world, it is desirable to go beyond using a single methodology to generally combining several methodologies, in whole or in part, and possibly those from different paradigms. Robey (1996:401) argues that a diversity of research methods and paradigms within the discipline is a positive source of strength. This is primarily as diversity provides a wider range of knowledge traditions upon which to base research and theory. Jackson (1992:84) mentions the inability of a single approach to account for complexity, to handle power-related issues in problem contexts and to bring about true emancipation for all those involved in the problem context; he recommends instead a pluralist approach. However, Jackson (2000:382) warns that pluralism in systems thinking and the systems practice field is faced with the following three relevant interconnected requirements:

- i. Pluralism must encourage flexibility in the theoretically informed use of the widest variety of methods, techniques, models and tools in any intervention.
- ii. Methodologies pertaining to diverse paradigms should be employed in the same intervention.
- iii. Pluralism must accept and manage some degree of paradigm incompatibility.

Based on the above requirements, a concerted effort has been taken to satisfy these requirements in the development of the framework in this study. In satisfying the first requirement, the model of System Dynamics has been employed. This is associated with the functionalist systems approach to provide a detailed cognitive map for the purposes of enhancing a debate within an interpretive systems framework (see Mingers and Brocklesby, 1997:491). The second crucial requirement posed to pluralism is that of paradigm diversity. This requirement has been satisfied by the use of the following approaches, that is, CST, SSM, VSM, SD and WSM. The third requirement posed to pluralism arises from the identified need to manage some degree

of paradigm incompatibility. This requirement of paradigm incommensurability is discussed later in this chapter.

Pluralism embraces the strengths of the various approaches in systems thinking, encouraging their theoretical development and suggests ways in which they can be appropriately fitted to the variety of management problems that occur. Jackson (1991) interchanges pluralism with complementarism. Jackson (1997, 2000, 2001) argues that that the term pluralism would be a better expression than complementarism as it encompasses ideas around the following issues:

- The acceptance and management at the theoretical level of a degree of incompatibility between paradigms;
- An encouragement to use diverse methodologies embodying different paradigms; and
- An encouragement to use a maximum diversity of methods, tools and techniques without lapsing into total pragmatism.

Following is a table illustrating the different possibilities for combining methodologies.

Table 5.1 Different possibilities for combining methodologies (adapted from Mingers and Gill, 1997)

| | One/ more methodo- logies | One/more Paradigm | Same/ Different Intervention | Whole/ Part Method- ology | Imperial- list or mixed | Example | Name |
|---|------------------------------------|----------------------|------------------------------------|------------------------------------|-------------------------------|---|-------------------------------------|
| A | One | One | - | - | - | SSM only | Methodological isolationism |
| B | More | One | Different | Whole | - | SSM/Strategic Choice | Paradigmatic isolationism |
| C | More | One | Same | Whole | - | Simulation+ Queuing theory | Methodology combination |
| D | More | One | Same | Part | Imperialist | Cognitive mapping in SSM | Methodology enhancement |
| E | More | One | Same | Part | Mixed | Cognitive mapping + Root Definition | Single paradigm multimethodology |
| F | More | More | Different | Whole | - | Simulation/ SSM | Methodology selection |
| G | More | More | Same | Whole | - | VSM + interactive planning | Whole methodology management |
| H | More | More | Same | Part | Imperialist | JSD in SSM | Methodology enhancement |
| I | More | More | Same | Part | Mixed | Cognitive Mapping + Systems Dynamics | Multi-paradigm multimethodology |

The table above illuminates firstly what Mingers (1997:6) refers to as methodological isolationism. This is reflected in possibility A where there is clearly no possibility of multimethodology and only one methodology is used. Possibility B, referred to as paradigmatic isolationism, is where several methodologies may be used but all from the same paradigm and not in the same intervention. Possibility C, methodology

combination, is when several complete methodologies from the same paradigm may be combined within the same intervention. Possibility D, methodology enhancement, and Possibility E, single-paradigm multimethodology, is where parts of a methodology are split off and combined. Possibilities F to I repeat B to E but with the complication that the methodologies involved may be from different paradigms. Possibility H is a multi-paradigm version of methodology enhancement and finally Possibility I is one in which parts of methodologies from different paradigms are brought together to construct an ad hoc multimethodology fittingly for a particular problematic situation (Mingers, 1997:8). Based on the complexity of the nature of evaluation of an academic department as a service provider at a university, coupled with earlier discussions, it can be expected that a combination of methodologies from Possibilities F to I might be relevant for the development of the framework.

Mingers and Gill (1997:8) argue as to why multimethodology, sometimes referred to as methodological pluralism or multi-paradigm intervention is desirable. Landry and Banville (1992:77) have made strong arguments in favour of pluralism in general but also within the context of information systems. Firstly, it should be noted that methodological pluralism may be conceptualized in a number of different ways:

- i). Loose pluralism, holds that a discipline as a whole should support and encourage a variety of paradigms and methods within it.
- ii). Complementarism is where different paradigms are viewed as internally consistent and based on different assumptions about their context of use in such a way that each paradigm is seen as more or less appropriate for a particular research situation.
- iii). Strong pluralism argues that most, if not all, intervention situations would be dealt with more effectively with a blend of methodologies from different paradigms.

Mingers (1997:9) put forward three main arguments in favour of strong pluralism. Firstly, that real-world problem situations are inevitably highly complex and

multidimensional. Different paradigms each focus attention on different aspects of the situation and so multimethodology is necessary to deal effectively with the full richness of the real world. Secondly, an intervention is not usually a single, discrete event but is a process that typically proceeds through a number of phases. These phases pose different tasks and problems, however; methodologies tend to be more useful in relation to some phases than others, so the prospect of combining them has an immediate appeal. Thirdly, further consideration of the philosophical and theoretical aspects of multimethodology is timely since many people are already combining methodologies in practice.

The notion of commensurability of paradigms is of particular importance in this study as Kuhn (1970) claims that the issue of paradigm choice can never be unequivocally settled by logic and experiment alone. Pluralism has to accept and manage a certain degree of incompatibility between paradigms on the theoretical level. A possible solution is suggested by Midgley (1997) and supported by Jackson (2000) and was based on earlier work undertaken by Wendy Gregory regarding what is termed as discordant pluralism. Gregory (1996:606) believes that the differences between paradigms/methodologies should not be rationalized by the use of a meta-theoretical structure but rather the 'discordance' of methodologies should be preserved and lessons of learning should be drawn from it. Therefore, the problem of paradigm incommensurability can be addressed by complementing our thinking about paradigms with a theory of how researchers from different backgrounds can learn from each other, but only on their own terms (Petkov, Petkova, Nepal and Andrew, 1997:6). The latter implies that communication between them, and hence between paradigms, is possible.

Another interesting view on the issue of paradigm incommensurability is the idea proposed by Deetz (1996) that the four discourses defined by him are not well formulated with clear boundaries, and as such cannot be considered paradigms. Under such conditions, it is a given that different discourses may be in dialogue. It can then be ascertained that Deetz (1996) and both Midgley (1997) and Jackson (2000) support, in their separate arguments, the idea of certain forms of paradigm mediation and a

combination of all these ideas can be accepted as sufficient justification of the use of techniques from different methodologies based on different paradigms. A combination of the above arguments provides a resolution to the issue of paradigm incommensurability in the framework that is being developed.

In support of the need for a multi-methodological approach, Gregory (1996) who traced the evolution of evaluation research, argues that it shows a similar pattern of development to that described by Bruscalgioni in organisation theory. She identified four paradigms in evaluation theory – goal-based, system-resource-based, multi-actor-based and culture-based and suggests that for much of their history they have remained in isolation, conflicting with one another. Gregory prefers “multidimensional evaluation” where methodologies are used together but in parallel, in order to protect different contributions they can offer according to their distinctive theoretical underpinnings. Taket and White (1995:520) argue that the degree of complexity and heterogeneity encountered in most evaluation situations prevents the adoption of the kind of contingency logic underpinning mechanical-complementarism. They also advocate a pluralist strategy for evaluation but based on a more eclectic approach. This approach must recognise the heterogeneity with the group concerned with an evaluation and recognise evaluation as a social process.

5.3 APPROACHES TO BE INCLUDED IN A CONCEPTUAL FRAMEWORK FOR THE EVALUATION OF AN ACADEMIC DEPARTMENT AS A SERVICE PROVIDER

The purpose of the conceptual framework is to provide systemic guidelines for understanding evaluation of service quality at a university. The framework is in itself not a concrete tool but rather a model to be used as a basis for further adaptations, amendments and application. The desired outcome is multi-fold, to entice theoretical discourse; for practical application regarding evaluation of service quality; to enhance focussed thinking in the arena of evaluation and service; to provide a platform for potential building blocks and to sensitize practitioners of evaluation to emergent properties in a system. The researcher therefore supports Mingers’ (2001:241)

arguments that different research methods focus on different aspects of reality and subsequently a richer understanding of a research topic will be gained by combining several methods together into a single piece of research. The following approaches shown in the figure below have been included in the framework and justification for the selection of the approaches is provided. They have been placed in a pyramid with Critical Systems Thinking providing the foundation of the framework. SSM, SD and VSM were used because of the strengths of these methodologies. The techniques of SSM included rich pictures which assisted in understanding the problem. Causal Loop Diagrams, a powerful technique of SD, provided an analysis of the system and its interaction with its sub-systems. VSM was utilised for its strength in organisational systems and finally WSM for its specific applicability to service organisations.

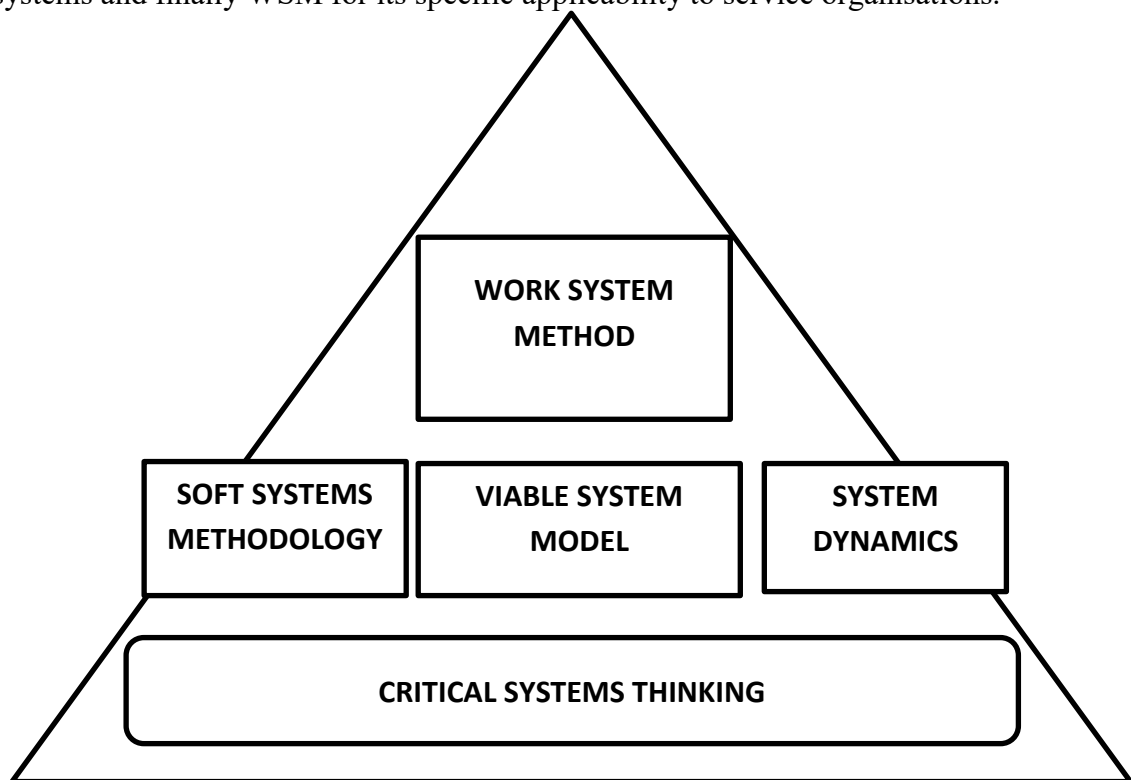


Figure 5.1 Approaches used in planning the framework

5.3.1 CRITICAL SYSTEMS THINKING (CST)

CST is selected in planning the framework as the basis of the study is to evaluate service quality and CST provides an element of critique which is required in the

evaluation process. CST provides an apt philosophical and theoretical foundation for an intervention in complex situations like evaluation of service quality of an academic department at a university. The following determinants of service quality proposed by Parasuraman et al. (1985:47) were identified during the literature survey (see Chapter 2):

- i. Reliability involves the consistency of service by the university as well as the service being dependable. The university has the resources and capacity to perform the service right the first time and honours its promises.
- ii. Responsiveness involves the willingness or readiness of the employees of the university to provide a quality service. Examples include timeous feedback to assessments,
- iii. Competence means the university possesses personnel with the required skills and knowledge to perform the service. Personnel would include both academic and administration staff.
- iv. Access involves approachability and ease of contact. It indicates that the service provided by the university is easily accessible either by using technology or face-to-face contact.
- v. Courtesy involves politeness, respect, consideration and friendliness of university staff towards all their customers.
- vi. Communication means the university keeping its customers informed in a language they can understand.
- vii. Credibility involves trustworthiness, believability and honesty. It involves the university continuously considering the customers' best interests.

- viii. Security is the freedom from danger, risk or doubt. It involves the university providing a physically safe campus free of political, emotional and social elements.
- ix. Understanding/knowing the customer involves making the effort to understand the needs of the students.
- x. Tangibles include the physical evidence of the service provided by the university: physical facilities, appearance of personnel, equipment used to provide the service, etc.

Having identified the determinants of service quality and its implications for a university, Ulrich's CSH twelve boundary judgements are an ideal checklist which would allow for normative content of the system to be unpacked and for qualitative analysis. The questions have been grouped according to Ulrich (1996, 1998) sources of influence:

Sources of motivation

- Who is the intended beneficiary of the evaluation of an academic department as a service provider at a university?
- What is the purpose of the evaluation process?
- What are the possible benefits of the evaluation process?

Sources of control

- Who is the decision maker regarding the rendering of a quality service at the university?
- What conditions of successfully planning and implementation of the system are controlled by the decision maker?
- What conditions are outside the control of the decision maker?

Sources of knowledge

- Who is providing relevant knowledge and skills for evaluation of service quality?
- What are the relevant new knowledge and skills for evaluation of service quality?
- Who are regarded as assurances of successful implementation?

Sources of legitimacy

- Who are representing the interests of those negatively affected by service but not involved in the evaluation process at a university?
- What are the opportunities for the interests of those negatively affected to have expression and freedom?
- What space is available for reconciling differing worldviews regarding service quality among the involved and the affected?

Following on the work of Ulrich and Reynolds (2010:244), my reasons for using the boundary questions are three-fold, *firstly*, to make sense of the situation: understanding assumptions and appreciating the bigger picture, *secondly*, unfolding multiple perspectives: promoting mutual understanding and *thirdly*, promoting reflective practice: analysing situations and changing them. Answers to these boundary questions will attempt to make sense of a situation by making clear the boundaries that limit our understanding. These boundaries inform our thinking about situations and systems. People often view situations differently simply because they frame the situations differently. CSH provides a tool for understanding the multiple perspectives people bring into situations and in total the 12 questions prompt an understanding of the bigger picture. In revealing to ourselves and to others the boundary judgements at work and by allowing everyone to understand their implications, we enable a practical focus on ways to improve a situation by engaging with people who have different perspectives. CSH also supports uninvolved people in uncovering undisclosed

boundary judgements imposed on them by not so reflective professional practice. The boundary questions can also be used with an emancipatory focus thereby allowing people to make their own authentic boundary judgements.

The reasons for the selection of the above approach for this multi-methodology, which is developed from a set of individual methods and techniques, are simple. CST complements a SSM based analysis (Nepal, 2002:166) as SSM sometimes lacks a sense of direction in the endless sequence of iterations on a particular problem.

5.3.2 SOFT SYSTEMS METHODOLOGY (SSM)

The following features of SSM motivated its inclusion in the development of the conceptual framework.

- SSM does not require the establishment of clear goals before the problem resolving can begin and is easily absorbed into organisational processes.
- SSM is mainly a problem-solving methodology which tries to analyse human activities as systems that will address the whole situation and not just the specific problem. Consequently, SSM can be described as a holistic approach.
- SSM is a participatory approach which attempts to involve the problem owners – stakeholders, decision-makers, etc. – in the analysis, and in finding the solution. SSM evolved from “action research” – an approach in which the researcher immerses himself in the analysed organisation and work, with close contact with the problem owners.
- SSM articulates a learning system that challenges existing ways of seeing and doing things, and can lead to some surprising shifts in *Weltanschauungen*, opening up novel and elegant proposals to change.

- SSM encourages the analyst to iterate and repeat stages as much as necessary. It enables the analysts to incorporate “soft knowledge” and to expose political and cultural conflicts.

The SSM technique that is considered for the evaluation framework is:

The use of rich pictures because of their expressive power and ability to represent the structure, processes, climate, people and issues expressed by people and conflicts as well as CATWOE analysis.

5.3.3 THE VIABLE SYSTEM MODEL

The viable system model (VSM) is unlike the other models as it is not in itself a methodology or process for problem interventions. VSM is regarded as an abstract model for assisting in designing the structure of an organisation. The main theory underlying VSM is that for an organisation to be viable, that is, its ability to survive within a changing environment, it must undertake particular activities and there must be certain relations between them. VSM developed after studying how human beings are organised as viable systems (see Rosenhead and Mingers, 2001:267) and it is against this background, together with the university being labelled as a large organisation, that VSM has been selected as a candidate in the development of the conceptual framework. A university exists within, and is coupled to, an environment or community which it serves. The university is responsible for undertaking various activities with respect to the environment, that is, its primary activities which would include amongst others, teaching and learning. To survive, however, the university must be able to regulate these activities. The three essential elements of VSM are environment, activities and management, each embedded within the other.

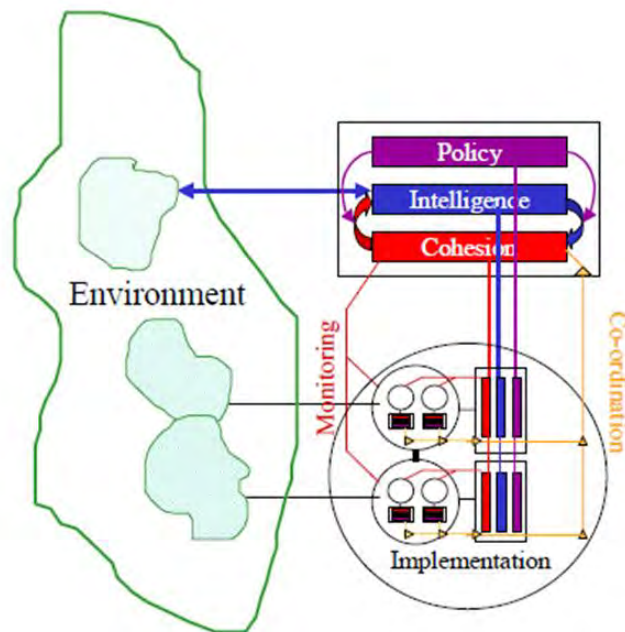


Figure 5.2 The Viable System Model of a University (adapted from Beer 1985)

A fundamental premise of VSM is the notion of recursion. Viable systems are embedded within viable systems. A university is a viable system of the education system but itself consists of departments that could be viable, and within them courses and students. Although, at a university, there are a number of systems, the question is then posed, “is the student recognised as a self-sufficient learning system” within a bigger system? Does the university create sufficient opportunities and space for the learner to operate and engage with the other systems of the university? The test is, could this activity in principle be taken out of the organisation and have its own separate existence? If so, it is a primary activity and no university can be deemed a university without having students. Thus activities such as marketing, administration, personnel and the information system of a university are arguably not primary activities since they would have no reason for existence without the students. The concept of recursive or nested viable systems implies the conscious choice of the level of analysis; Beer calls this the system in focus. The system in focus in this study is the interaction the student has with the university. System Two deals with co-ordination and at a university this could largely be represented in the timetabling and scheduling

of lectures and examinations. System Two is largely the functions co-ordinated by the various heads of respective departments. System Three is in overall control of System One as well as being responsible for the co-ordination function of System Two. Its primary purposes are: to communicate the organisational policy for System One and ensure that it is implemented; allocate resources between the various activities; and monitor actual performance. System Three would be embedded in the management structure of the university; examples would include Deans of Faculties, Directors of various ambits of the university, i.e. Research, Library, Information Technology, Student Affairs, Quality Assurance, Finance, Learning & Teaching, Registrar. System Four which is intelligence is concerned with outside developments. System Four stands at an intersection within the organisation and mediates between the outside and the inside, and also communicates important information vertically between Systems Three and One and the policy maker, System Five. System Four would be embedded in the function of the Vice Chancellor and System Five would be nested in the council of a university.

5.3.4 SYSTEM DYNAMICS (SD)

Gregory (2009b:11) states that System Dynamics is an approach that involves building a model that captures the dynamic nature of systems and aims to identify the underlying structure of social systems. Harris and Williams (2005:2) mention similarly that SD is a methodology for studying and managing complex feedback systems such as social systems. Fredericks, Deegan, and Carman (2008:252) further add that SD is increasingly being recognised as a useful tool for evaluation purposes. The use of SD within multimethodology is most often combined with SSM (see Cavana, Lee, Bennet, Taylor 1996:183 and Coyle and Alexander, 1997:206). In the context of this study, SD is used to provide context, explain competing goals and to identify important feedback processes and the potential for unintended consequences.

Causal Loop Diagramming (CLD) which is one of the primary SD techniques used in the course of the action research is utilized in this study. It is a technique used in SD (Forrester, 1975) to understand the dynamic complexity of organisational behaviour.

Burns and Musa (2001) mention that one of the purposes of using CLD is to capture the dynamic cycles of influence that would serve to pinpoint where leverage points in the system exist. Lyneis (1999:40) states that CLD is an effective means of conceptualising the cause-effect structure of the system believed to create behaviour. The main use of these diagrams is to “improve the process of thinking about the structure underlying a problem”, which may include “feedback loops and perhaps time delays, accumulations, and nonlinear effects (Homer and Oliva, 2001:349).

In this action research, CLDs were used to enhance thinking around the links between sub-systems, and the possible causal impacts of policy changes, as well as to gain insight into complex systems and causal structures. In particular, they were used to understand the behavioural implications of students at a university. This information was then used to determine main points of leverage in various sub-systems to help determine the appropriate strategies for implementation.

The university is an open system which largely portrays the environmental context to which it belongs. There are various systems within a university that are interrelated and intertwined working to render a service to its stakeholders. The operation of the university as a system is never static but rather because of its open nature, having influences from multiple stakeholders, has a dynamic nature. The university having a number of external influences including government, businesses, donors, accreditation and evaluation bodies, parents, etc can be regarded as a social system.

Jackson (2000:145) points out that the primary rationale behind SD remains knowledge about systems, which are seen as existing in reality, by studying the interactions between their variables. Following is a diagrammatical representation of the interaction between a student and the university as well as the other dynamic forces that impinge upon the system.

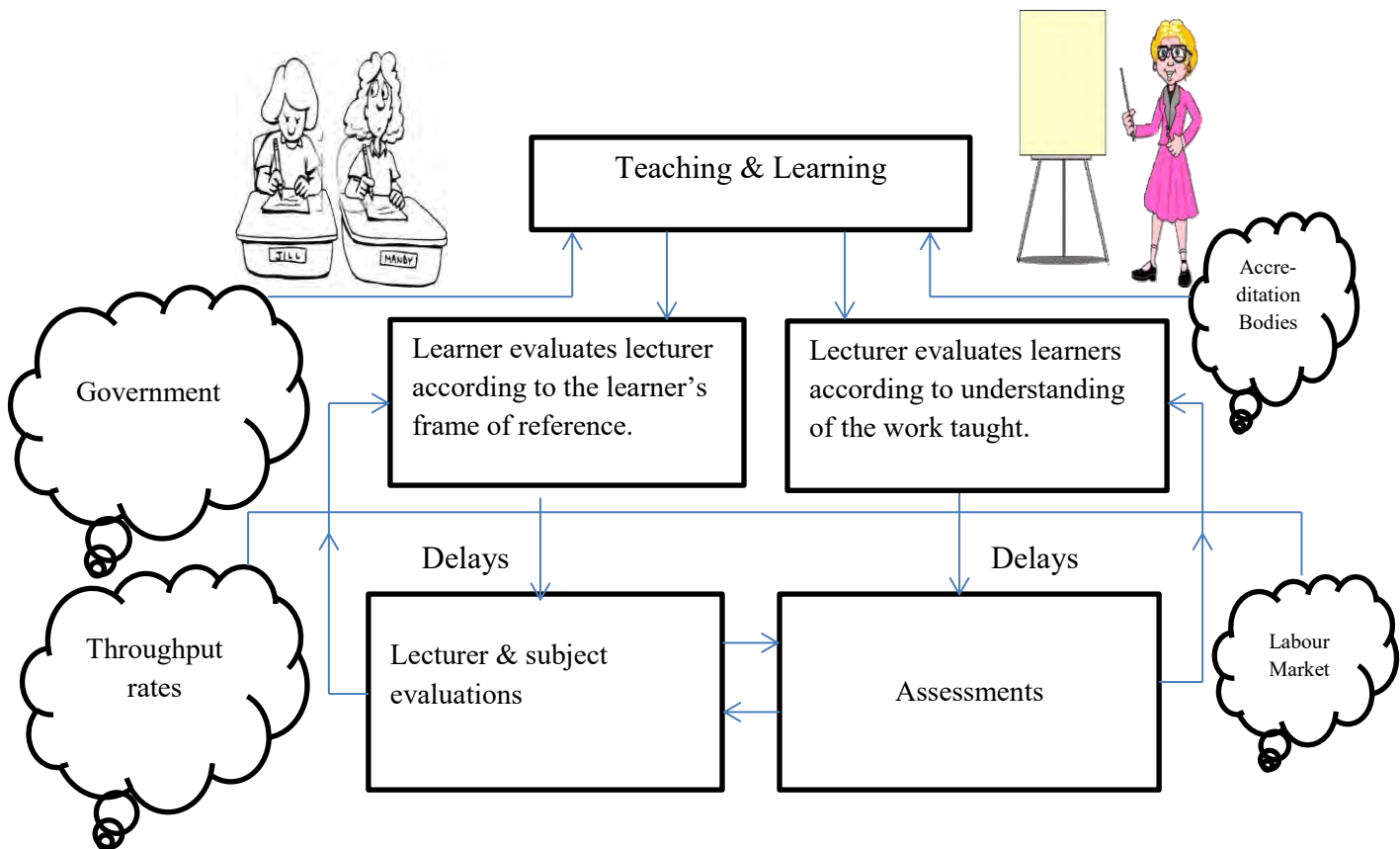


Figure 5.3 System Dynamics in a learning environment

The SD model provides useful insight into the relationships within the system, identifying causal loops, and understanding their dynamic nature. Although teaching and learning has been identified as the pinnacle in the relationship between the university and the student, there are other elements, particularly social elements, that influence the behaviour which are normally counterintuitive. In the preceding diagram this is represented by government who influences the system by imposing national imperatives. The process of teaching and learning at university is affected by the various accreditation and evaluation bodies that to some degree dictate the nature of the course. The labour market arguably would also impinge upon the social system of the university which is also influenced by the throughput rates at each university. The next candidate that has been selected in the development of the framework is Steven Alter's Work System Method.

5.3.5 WORK SYSTEM METHOD (WSM)

According to Alter (2006b:16) analysis, as part of the work system method, typically begins with using a simple and widely applicable tool called a work system snapshot. The purpose of the work system snapshot is to clarify the scope of the work system and identify the most important things that it produces for its customers.

Table 5.2 Work System Snapshot of a learner's service experience at a University

| Customers | | Products and Services | |
|--|---|---|--|
| <ul style="list-style-type: none"> • Students • Staff (Academic & Administration – Inst. Support) • Parents • Government • Management | | <ul style="list-style-type: none"> • Tuition • Administrative Services • Auxiliary services (Counselling, Health Care, Library, Financial Aid, Housing, Cafeteria) | |
| Work Practices (Major Activities or Processes) | | | |
| <ul style="list-style-type: none"> • Initially a potential learner will make application via the Central Applications Office (CAO). • Alternatively learners will arrive at the institution looking for possible spaces at an academic department. • Academic staff will scan an applicant's statement of results to determine if he or she meets the minimum entrance requirements. • If yes, learner can return on date of registration. • If no, learner informed that he or she does not meet the entrance requirements and is informed of alternatives. • Day of registration learner will return with ID, certified statement of results. Parents to sign suretyship/guarantor form and the learner to have the minimum deposit. • Student registers and receives academic timetable and told when to return for orientation and start of lectures. • Major activity is the lectures/facilitation/teaching and learning/assessments. Interaction between Academic Staff and Students • Administrative interaction with: <ul style="list-style-type: none"> • Departmental secretary • Finance • Library • Security | | | |
| Participants | Information | Technologies | |
| <ul style="list-style-type: none"> • Students • Staff (Academic & Admin) • Parents/Donors • SRC • Government • Employers | <ul style="list-style-type: none"> • Matric Certificate • Qualifications from previous tertiary institutions • Financial Information • Identity Documents • Lecture notes/material | <ul style="list-style-type: none"> • Telephones • Computers • Integrated Tertiary Software (ITS) • Networks • Bank card machines | |

After applying the work system snapshot to the university, the next step was to consider drawing upon the strengths of Steven Alter's Service Value Chain Framework.

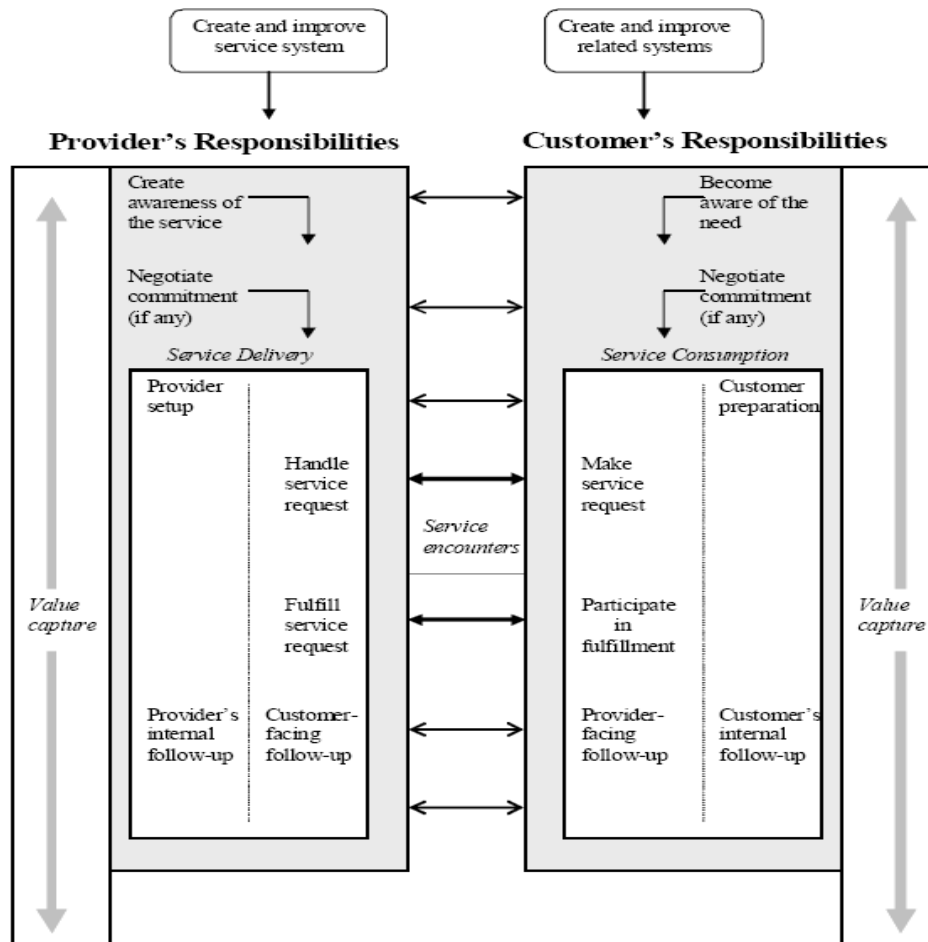


Figure 5.4 Service value chain framework (adapted from Alter, 2007, 2008)

The various methodologies employed in the development of the framework have been discussed. The following section investigates the potential synergies and hence the elimination of probable methodological conflicts.

Schwaninger (2004:415) is of the opinion that the challenge of complex organisational issues requires the joining forces between VSM and SD methodologies. It is argued that these cannot be completely separated because they are closely interlinked. SD and VSM have each established models and methods capable of addressing issues the

other is not equipped to deal with. According to Schwaninger, Rios and Ambroz (2004:16) using a combination of SD and VSM methodologies are complementary because:

- Their objectives are in harmony.
- Their methodologies are individually incomplete, mutually exclusive, but collectively exhaustive or at least comprehensive.
- Both are highly generic and therefore applicable to a great variety of situations.
- Both SD and VSM are rooted in the Systems Approach.

Looking at the combination of methodologies and paradigms adopted in this study, the conceptual framework gains support from empirical research previously undertaken (see Haslett and Sankaran (2009:2)). In addition, there have been many other studies which have also adopted a multi-methodological approach drawing upon the strengths of each paradigm (see Petkova & Petkov, 2012:1) which discusses the comparison of the work system method and soft systems methodology. Another study also reveals the experiences of combining multiple criteria decision making and techniques from soft systems approaches for decision support at complex problem solving (see Petkov, Petkova, Andrew & Nepal, 2007:1616). Munro and Mingers (2002:369) discuss the move towards a pluralistic approach of combining several methods within an intervention to form a multi-methodology as well as the particular combinations which are most commonly used. From the above, it is evident that the approach adopted in this study is empirically sound, established upon fundamental research backgrounds. The following section discusses the conceptual framework.

5.4 A CONCEPTUAL FRAMEWORK FOR THE EVALUATION OF AN ACADEMIC DEPARTMENT AS A SERVICE PROVIDER AT A UNIVERSITY

The conceptual framework proposed is based upon the theoretical underpinning of Critical Systems Thinking following on the work of system experts Jackson, Flood, Mingers, Midgley and more recently, Alter. The framework harnesses the strengths of SSM techniques, Critical Systems Heuristics, Viable System Method and System

Dynamics and connects these with the extension of the Work System Method to service organisations.

Following on the work of Mingers (1997:431), the conceptual framework is developed from multiple perspectives represented in Multimethodology. Mingers (1997:431) asserts that a fully comprehensive intervention needs to be concerned with the three different worlds – material, personal and social. These three worlds were conceptualized in the work of Habermas (see Habermas 1984, 1987). The techniques utilised in this study that address the three worlds reflecting facets of the problem in the framework, are:

Table 5.3 Mapping of Possible Techniques suitable for the evaluation of an academic department onto the Three Worlds of Habermas (following Mingers, 1997)

| Social World | Personal World | Material World |
|--|--|---|
| <ul style="list-style-type: none"> • SSM (Rich pictures & CATWOE) • SD (Causal Loop Diagrams) • CSH (12 boundary questions) | <ul style="list-style-type: none"> • SSM (Rich pictures & CATWOE) • WSM (Work System Snapshot) • SD (Causal Loop Diagram) | <ul style="list-style-type: none"> • VSM (Viable Systems – the student as a self-sufficient learning system). • WSM (Service responsibility Tables & Service Value Chain Framework) |

Mingers (1997:433) warns that it is not intended that methodologies are slotted into particular boxes like the system of systems methodologies (see Jackson and Keys, 1984) but rather that they are mapped across all the different areas to which they can contribute. Secondly, the precise placing of a particular methodology or technique is

debatable. However, this is also one of the desired outcomes of the framework-which is to invoke debate. Thirdly, the multimethodology approach includes the possibility of utilizing only parts of methodologies.

The overall philosophical foundations of the framework are based on critical systems thinking, not only for its commitment to pluralism, but also for its obedience to the emancipatory idea. This implies that the framework will also provide a voice for the students regarding evaluating service quality.

The next issue which requires discussion is the process of the intervention. Flood and Jackson's (1991:79) Total Systems Intervention (TSI) Version One was criticised as it placed too much emphasis on the stage of selection of a method. According to Bowen (1998:172) TSI Version Two is a fully recursive methodology suitable for problem solving. It is flexible in addressing the complexities of real world interventions. However, it is prudent to consider the nature of the problem which in our case is the evaluation of service quality at a university of technology. TSI Version Two is adopted with particular use of the Critical Reflection Mode which is to ponder upon the intervention and the methods employed (see Jackson, 2000:389). The Critical Review Mode relates directly to the constant need for critical awareness of the existing methods that can be applied in an intervention but it is an implicitly applied principle in any intervention that is based on the philosophies of Critical Systems Thinking.

Of particular importance is the notion that evaluation of service quality of an academic department at a university cannot take place in isolation and needs to be objective, as was previously discussed. In addition, the problem in question leans heavily upon the human element and thus it is important to consider an action research process. The process of action research outlined by Checkland and Holwell (1998:27) will be followed. The framework is illustrated in Figure 5.5.

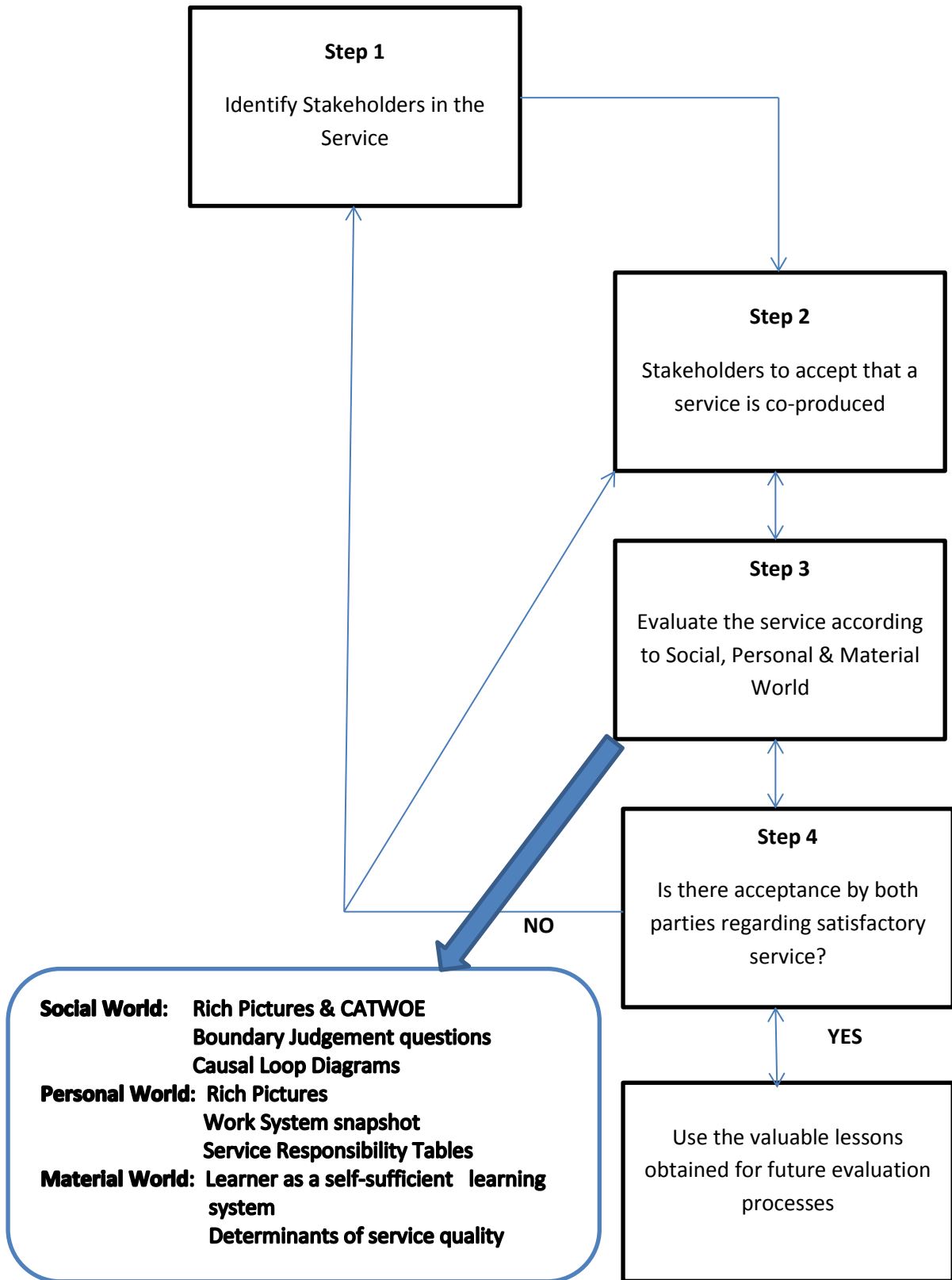


Figure 5.5 Framework for the evaluation of service quality of an academic department

The proposed framework is an action research framework with the philosophical underpinnings nested in Critical Systems Thinking and is based on the work of Checkland and Holwell (1998). The conceptual framework presents a combination of SSM, SD, VSM, WSM within a multimethodology framework of Mingers (1997:420) and the latest extension of the Work System Method to service organisations of Steven Alter (2008c:6). Jackson (1997:19) proposes a coherent pluralism in management sciences within the framework of Critical Systems Practice, and this framework aims to follow that call by involving the potential actors of the university.

5.5 CONCLUSION

The overall justification of the framework is addressed in sub-paragraph 5.3 of this chapter. It was prepared from the perspectives of the body of knowledge within evaluation of service quality in higher education, service organisations, complex systems and systems thinking. Following on the work of Mingers and Gill (1997:412), it was shown that the formulation of the framework could be based on a meta-theoretical approach to mixing methods and techniques from different paradigms, called Multimethodology. Soft Systems Methodology was used as the dominant methodology following the justification that SSM has a tradition of being used for evaluation purposes (see Gregory and Jackson, 1992). However, the proposed framework for the evaluation of an academic department as a service provider at a university of technology is significantly different from the work of Gregory, since the researcher's framework uses a simplified form of SSM, which is enhanced by CSH, SD, VSM and WSM making it more applicable to the problem of concern.

The nature of the problem of evaluation of service determined the philosophical foundations of the framework as illustrated in Figure 5.1 which is Critical Systems Thinking. CST was essential for its support of pluralism and for its emancipatory nature. In adherence to a proper mix of methods in the pluralistic framework, rich pictures served the purpose of identifying the mess. Critical Heuristic boundary judgement questions also assisted in framing the problem and the emancipatory idea of improvement of service quality. SD and VSM served as insights into the technical,

cultural, and political and social issues affecting the system. Finally, the support for the framework for purposeful action in the evaluation process is supported through the Work System Method.

It is the intention of the above considerations to illustrate that the proposed evaluation framework is relevant to the problem concerned. This framework has utilised the best outcomes in evaluation theory and critical systems thinking that are relevant to the problem, so the framework has been competently built. The next chapter will discuss the application of the framework.

CHAPTER 6

A CASE STUDY ON THE APPLICATION OF THE FRAMEWORK

- 6.1 Introduction
- 6.2 Background information on higher education in South Africa, the University and Department that was used as a test bed for the implementation of the framework proposed in this study
- 6.3 Stakeholder Analysis
- 6.4 Examination of the evaluation of service quality from multiple perspectives
- 6.5 Prioritization of factors influencing the improvement of service quality
- 6.6 Reflection on the approach used in the evaluation of service quality
- 6.7 Conclusion

6.1 INTRODUCTION

The purpose of this chapter is to provide a practical validation of the framework for the evaluation of an academic department as a service provider. In order to undertake a practical validation of the framework, it was necessary to conduct workshops with the relevant stakeholders. Two workshops were conducted, one on the Pietermaritzburg Campus and another on a Durban campus of the Durban University of Technology. Following is a discussion on the South African higher education milieu followed by the process and the results of the case study.

6.2 BACKGROUND INFORMATION ON HIGHER EDUCATION IN SOUTH AFRICA, THE UNIVERSITY AND DEPARTMENT THAT WAS USED AS A TEST BED FOR THE IMPLEMENTATION OF THE FRAMEWORK PROPOSED IN THIS STUDY

Since 1994, the South African education sector has been beset by the spirit of change and transformation from the apartheid-influenced education system to one that will represent the demographic make-up of the country (Mfusi, 2004:98). The higher education sector has had various policies promulgated, amended and re-amended in order to change the landscape. According to Mfusi (2004:98), the latest landmark has been the “merging” of higher educational institutions and a reduction in their numbers from 36 to 21 tertiary institutions. Following is a summary of the scenarios and the rationale that necessitated the mergers in South Africa:

- The fragmented systems inherited from the pre-1994 government(s), which led to a vertically and horizontally fragmented system along provincial level and racial lines (Habib and Parekh 2000); Hay and Fourie (2002) both cited in Wyngaard and Kapp, 2004:187).
- The inequities and disjunctions of the systems (Bitzer (2002) and NCHE (1996) both cited in Wyngaard and Kapp, 2004:187).

- Incoherent and poor articulation between various types of further and higher education institutions (Wyngaard and Kapp, 2004:187).
- Unequal distribution of resources and subsidies amongst further and higher education institutions (Hay and Fourie (2002) and NCHE (1996) both cited in Wyngaard and Kapp, 2004:187).
- The poor throughput rates by institutions (Bunting (1996) cited in Wyngaard and Kapp, 2004:187).
- The declining state subsidy mainly as a result of poor economic growth (Hay and Fourie (2002) cited in Wyngaard and Kapp, 2004:187).
- The impact of legislation (SAQA, NQF, Skills Development Act, Skills Development Levy, Labour Relations Act, Affirmative Action) which changed the profile of institutions and which resulted in the permanent appointment of temporary staff, increased salaries and the expansion of basic fringe benefits to all members of staff (Wyngaard and Kapp, 2004:187).
- Declining enrolment in some institutions, migration of students between institutions and non-participation in further and higher education (Edusource (2002) and Reddy (1998) both cited in Wyngaard and Kapp, 2004:187).
- Regional overlap and duplication of programmes (Wyngaard and Kapp, 2004:187).

It was against this backdrop that something had to be done to reshape the landscape.

In 2001, the South African Ministry of Education released the National Plan for Higher Education (NPHE) (Council on Higher Education, 2000:1), which contained the following policy goals, *viz.*

- a framework and mechanisms for restructuring the higher education system;
- indicative targets for the size and shape of the system;
- increasing the participation rates for young people,
- shifting the balance between humanities, business and commerce, and science, engineering and technology;

- the creation of a single dedicated distance education institution through the merger of UNISA, Technikon SA and the Distance Education Campus of Vista University (VUDEC); and
- other specific restructuring measures including the merger between ML Sultan (MLST) and Technikon Natal (TN).

The Technikon Natal and ML Sultan Technikon merger was the first higher education merger in South African, (Chalufu (2002) cited in Jansen, 2002:128). In part it was a voluntary merger because talks about the merger had proceeded for some years before the National Plan for Higher Education (2001) was tabled. At the time of the merger, the two institutions had a similar sized student body of approximately 9 500 students each. MLST had a main campus with one small satellite campus at Brickfield Road in Durban. TN had a main campus in Durban, a branch in each of Durban and Pietermaritzburg and a satellite campus in Richards Bay. In addition, at the beginning of 2001, two Colleges of Education were incorporated into TN, being Indumiso in Pietermaritzburg and Gamalakhe in Port Shepstone (DUT, 2013a:paragraph 3).

Chalufu (2002) cited in Jansen (2002:138) says the merger between MLST and TN was officially inaugurated on 1 April 2002, culminating in the birth of the Durban Institute of Technology (DIT). With a total of 97 proposed names received from public submissions, the merger committee eventually settled for DIT and made its recommendation, which was approved by the Minister of Education.

The DIT Council resolved at its seating on the 12th of December 2005 to change the institution's name by changing the word 'INSTITUTE' to 'UNIVERSITY' of technology (DUT, 2013a:paragraph 5). This was after an extensive consultation process with all stakeholders and their constituencies including the student representative council (SRC). The name change has since come into effect (Republic of South African Government Gazette, 2002:6).

Chalufu (2002) cited in Jansen (2002:138) says this merger was the first proposed combination of higher education institutions in South Africa. It was a “cross racial merger” in which the historically advantaged institution, the former white TN, was the weaker partner financially compared to the historically disadvantaged institution, the former “Indian” MLST, (Chalufu (2002) cited in Jansen, 2002:138).

From a practical perspective, the merger of MLST and TN made sense, as these two institutions were literally separated by a physical fence, although providing the same services, a few meters apart. Chalufu (2002) cited in Jansen (2002:129) says the two institutions had significant differences in their resources, cultures and racial profiles. The library collections of the two Technikons showed stark inequalities in their resources (Chalufu (2002) cited in Jansen, 2002:128). During the 2000 academic year an audit was undertaken in the library and MLST had 48 000 volumes and 59 510 titles, while TN had 70 578 volumes and 62 217 titles (Chalufu (2002) cited in Jansen, 2002:129). In terms of academic and professional staff, the majority of staff at TN were white (82 %) while at MLST, the staff at similar levels of appointment, were mainly Indian South Africans (68 %) (Chalufu (2002) cited in Jansen, 2002:129). Since the merger there has been a gradual deracialisation in terms of student racial profiles and in the management and leadership of the new institution (Chalufu (2002) cited in Jansen, 2002:129). Under the current leadership of the university, the focus is to become a university that is student-centred, striving for academic excellence in teaching and research and one that is committed to meaningful community engagement. Following is a discussion on the Pietermaritzburg operations of DUT.

6.2.1 Pietermaritzburg operations of DUT

According to the (DUT, 2013b:paragrah 2), the Pietermaritzburg operations started in the late 1980’s primarily as an extension of the part-time courses available on the Durban Campus. Initially, these lectures were conducted at venues in the Faculty of Arts of the University of Natal. As classes and the number of courses grew, the need to find larger premises that were more freely available resulted in the operation moving to the Music School in Boom Street in 1990. A year later the campus was re-

located into the recently vacated Voortrekker Primary School on the corner of Pine Street and Mayors' Walk (DUT, 2013b:paragraph 3).

In 1992 the number of full-time enrolments was 31 and part-time 220 (DUT, 2013c: paragraph 1). The campus continued to grow and by 1995 there were 755 full-time students, 120 bridging programme students and 140 part-time students. Concurrently, the present Gert Maritz Campus became available and the move to the present site took place during 1996 (DUT, 2013c:paragraph 4). This campus is currently referred to as Riverside Campus. In 2001, the Indumiso Campus in Edendale was incorporated into Technikon Natal and thus became a site of the DUT operation (DUT, 2013b:paragraph 4).

In 2012, there were a total of 150 staff members and 3730 students at the DUT, Pietermaritzburg campuses. Of the 150 staff members, 55 % were academic staff and 45 % were administration staff. According to the DUT (2013c:paragraph 4), "the Midlands operations at Indumiso and Riverside have shown impressive growth figures." There are currently 9 programmes offered on the Riverside Campus from National Diploma to Bachelor of Technology and Master of Technology qualifications and 3 programmes offered on the Indumiso Campus *viz.* Civil Engineering, Nursing and Education. The enrolment figure for 2012 on the Riverside campus was 1940 students and on the Indumiso campus, was 1790 according to the DUT Administration department (DUT, 2013c:paragraph 5).

The framework proposed in this project was applied to an academic department called Finance & Information Management based at the Pietermaritzburg Campus. The department is comprised of twelve academics, one computer technician and one department secretary all of whom are continuously interacting with students. In 2012 the department had 576 registered students. In addition, the framework was used in conjunction with a group of participants which consisting of the Executive Dean of the Faculty, Director of the Centre for Excellence in Learning & Teaching, Director of Quality Promotion and Assurance, Academic Development practitioners, students and the Heads of Departments and programme co-ordinators from the faculty.

6.3 STAKEHOLDER ANALYSIS

Following the procedures in the framework, this section reports on the stakeholder analysis conducted in this study. Two workshops were conducted to satisfy the following aims:

- i). To identify the relevant stakeholders in the evaluation of service quality at a UOT.
- ii). To illuminate and contextualise the problem as well as generate ideas for the improvement of service quality by an academic department, through a brainstorming exercise using rich pictures and CATWOE analysis.
- iii). To appreciate the bigger picture and assist in unravelling the multiple perspectives by using Ulrich's twelve boundary judgement questions.
- iv). To determine the prioritisation of factors affecting service quality at an academic department of a UOT by conducting a pairwise comparison using Analytic Hierarchy Process (AHP).
- v). To test the applicability of the framework.

I acted as facilitator for the workshops and began the workshop by explaining SSM and CSH tools and their purposes which were to be used during the workshop, *viz.* rich pictures, CATWOE and boundary judgement questions. Initially, in each workshop, there was rigorous debate as to who the actual clients were of the service offered by an academic department. However, the student was a common stakeholder that was identified by every participant. The students can be referred to as “standard stakeholders”, since Banville, Landry, Martel and Boulaire (1998:17) classify standard stakeholders as stakeholders that affect the problem and are affected by the problem. In addition, the role of the student in the evaluation and improvement of service quality at a department is essential.

An elementary rich picture (Figure 6.1) was used at the beginning of the workshop to initiate a brainstorming exercise.

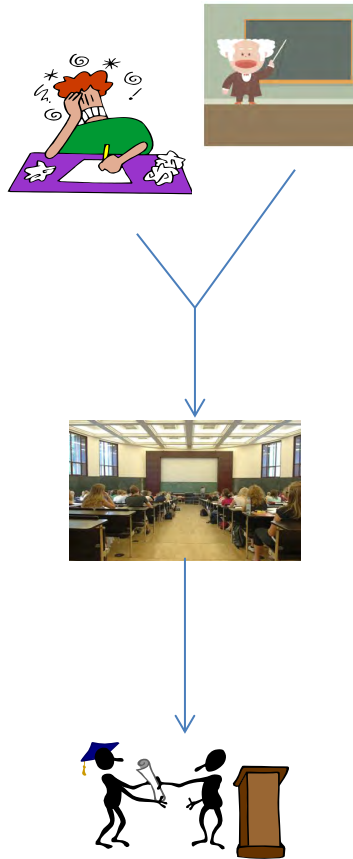


Figure 6.1 Rich Picture depicting some of the elementary components in the problem

The rich picture shows a student at a university attending lectures in a lecture venue with the ultimate goal of receiving a qualification. It is evident from this rich picture that the relationship is linear whereby there is an input (student); a process (teaching and learning) and an output (qualification). Participants were issued with post-it stickers which were used in the brainstorming exercise.

6.4 EXAMINATION OF THE EVALUATION OF SERVICE QUALITY FROM MULTIPLE PERSPECTIVES

Soft System Methodology techniques of rich pictures, CATWOE analysis and brainstorming were used in conjunction with the boundary judgement questions of Critical System Heuristics. The intention was to generate sufficient issues associated with evaluation of service quality, provide a voice to those that have historically been disadvantaged, create an environment for learning and gather information to motivate for the improvement of service quality of an academic department at a UOT.

6.4.1 Rich picture of the problem

The rich picture technique assisted the participants in clarifying the stakeholders involved in this complex problem. Participants used their post-it stickers to include a variety of elements affecting service delivery. This variety represented the different *weltanschauungs* (world-views) of the participants. The author analysed the post-it stickers and attempted to include the different *weltanschauungs* by updating the rich picture and developed a new rich picture (see Appendix 3). The new rich picture shows a more detailed analysis of the messy problem. A student enrolls at a university and interacts with staff representing the university. This interaction could be a pleasant or an unpleasant experience. The student evaluates the service received by the university by judging the physical evidence like library facilities, sport facilities, cafeteria and lecture venues. The student also evaluates the lecturer by his responsiveness, appearance and his knowledge of the subject. The opposing world-view is that the lecturer also evaluates the student according to the student's dedication toward the subject, the preparation before the lecture, the performance in assessments and his general behaviour during the lecture. This process of evaluation/judgement is illustrated by the hand holding a magnifying glass above the lecture venue. The other factors which contribute to the complexity of this problem are the influences of government, donors, accreditation bodies and student representative councils. As mentioned previously, the university is an open system and there will always be external influences that impinge upon the university. Political affiliations at

universities are a common practice and South Africa having a young democracy, promotes freedom of expression. As universities are state owned institutions, these universities are also subject to government evaluations which in turn are filtered to departments. External accreditation bodies frequently assess the quality and purpose of the programmes offered at universities. The participants recognised and appreciated the need to develop a systemic framework for the evaluation of service quality.

6.4.2 Brainstorming issues associated with the evaluation

Brainstorming was used to generate ideas for the improvement of service quality. A flip chart was used to document all the ideas generated from the participants of the workshop. The following are the main issues raised by the participants:

- Staff need to be more courteous and friendly towards students.
- There is a need to have an evaluation system/procedure in place at the university.
- Students need to be mindful of their contribution towards service delivery.
- There is a need to provide skills training to develop customer service.
- The new general education curriculum at the university should incorporate a module on service delivery.
- The quality of service is not consistent among the various departments and units of the university.
- There seems to be a lack of ownership in ensuring and evaluating service quality holistically.
- Staff feel they are answerable to “many bosses”.
- Subject and lecturer evaluation practices should incorporate elements of service quality of the institution as a whole.
- There is a need to create an organisational culture of efficient service.

The participants were asked to rank the above issues in terms of importance to the improvement of service quality at the university. A rating scale of 1 to 10 was used, where 1 represented little and 10 was extreme importance. In addition, each issue was rated against a stream of SSM mode two categories of Technical, Cultural and Political. The classification of these issues allowed the author to perform a cultural analysis of the intervention, analyse the social and political aspects of the relevant systems and to draw comparisons with the real world. The chasm between the desirable and the real world form the basis for transformation and action. The issues together with the rankings are found in Table 6.1.

Table 6.1 Ideas generated during the brainstorming sessions

| | Issues | Rating | T | C | P |
|----|--|--------|-------------------------------------|-------------------------------------|-------------------------------------|
| 1 | Staff to exercise courtesy towards students | 9 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2 | Develop and install a service quality evaluation system at the University | 10 | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> |
| 3 | Students to know their part in co-producing the service | 8 | | <input checked="" type="checkbox"/> | |
| 4 | Provide skills training to staff to develop customer service | 10 | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> |
| 5 | New general education curriculum to incorporate a module on service delivery | 7 | <input checked="" type="checkbox"/> | | |
| 6 | Quality of service is not consistent across the university | 6 | | | <input checked="" type="checkbox"/> |
| 7 | Lack of ownership in ensuring and evaluating service quality | 9 | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> |
| 8 | Staff feel answerable to many bosses | 6 | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9 | Subject and lecturer evaluation practices to incorporate elements of service quality | 5 | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> |
| 10 | Create an organisational culture of efficient service delivery. | 10 | | <input checked="" type="checkbox"/> | |

From the rating exercise it can be deduced that the participants considered the following issues (ratings 9 and 10) as most important:

- To develop and install a service quality evaluation framework at the University
- To provide training to staff to develop proficiency in customer service

- To create an organisational culture of efficiency in service delivery
- Staff to exercise courtesy towards students
- To establish ownership in ensuring and evaluating service quality

An analysis of the above highlights the importance of this study in developing a framework for the evaluation of service quality. In addition, issues around service quality are not only technical in nature but also include cultural and political issues. The challenge for the university is to create and sustain an organisational culture which produces efficient and satisfactory service. In keeping with the vision of the university in developing a student centred learning environment, it is imperative for management to implement a campus-wide approach to developing a service culture. The students have also utilised this vehicle to enunciate their dissatisfaction of the lack of courtesy towards them. There is also an urgent need to provide skills training in this area. The next section discusses the use of CATWOE analysis which was used in the development of multiple perspectives.

6.4.3 CATWOE Analysis

Multiple perspectives were investigated through CATWOE analysis of Soft Systems Methodology (Checkland and Scholes, 1990). The meaning of the CATWOE mnemonic is listed in the table below together with its meaning in the context of the improvement of service quality of an academic department at a UOT.

Table 6.2 CATWOE and its meaning in the context of the improvement of service quality at an academic department.

| |
|---|
| <p>Customers: The customers, beneficiaries or victims of the provision of the service at a university of technology.</p> <p>Actors: The people that are involved in the system at the university</p> <p>Transformation: The process that transforms inputs into outputs.</p> <p>World-view: The viewpoint from which the transformation should take place.</p> <p>Owners: Those in the university that have decision-making authority – those who can stamp out unsatisfactory service delivery.</p> <p>Environmental constraints: The environment includes those factors that will impinge on the situation, and over which the actors and owners have no control.</p> |
|---|

Each participant at the workshop was issued a questionnaire (Appendix 4). The CATWOE mnemonic was explained to the participants at the workshop. The participants were reminded that their responses had to be related to the evaluation and improvement of service quality at an academic department of a university. An analysis of the responses is given below:

Summary of the responses of the participants for the **CUSTOMER** element of CATWOE:

| |
|--|
| <p>The customers, beneficiaries or victims of the provision of service at an academic department of a university of technology would be students, parents, the community, other departments, government and staff members.</p> |
|--|

On analysis of the customer element of CATWOE of the questionnaire, it was evident that most of the participants felt that the students fell into this category. In addition, there was also a moderate response for parents and the community also forming part of the customers. Also worth noting was the indication that other departments at the university together with other staff members and government were also regarded as beneficiaries of service from the academic department.

Summary of the responses of the participants for the **ACTOR** element of CATWOE:

The people involved in the activities in the system and those who are responsible for rendering a service were the head of department, the departmental secretaries, the lecturers and the administrative staff.

In response to who the actors are and who the actors should be, it was extremely clear that the participants were of the opinion that any staff member representing the department would be an actor. However, there were also 40% of the participants who felt strongly that even though an academic department is rendering a service to the student, the student is also deemed an actor and is also equally responsible for reciprocating a satisfactory service.

Summary of the responses of the participants for the **TRANSFORMATION** element of CATWOE:

The process that transforms inputs into outputs. The aspect of the problem that you want to change and improve with respect to service quality of the department.

The responses to this question were diverse and as a result there were multiple perspectives to the transformation element. During the feedback session it was noted that the participants experienced difficulty in answering this question. However, the results to this question indicated that some of the participants felt that transformation could be achieved firstly by attempting to change the attitude that staff members have towards students. Secondly, by training and developing staff and students towards

rendering efficient and effective customer service. Thirdly, there should be a campus-wide approach in developing a philosophy of service culture starting with executive management and cascaded to departmental levels.

Summary of the responses of the participants for the **WELTANSCHUAANG (WORLD-VIEW)** element of CATWOE:

Your view of the problem – what assumptions are made, and what do you regard desirable for an academic department rendering a quality service?

A comparison of the Weltanschuaangs of the participants showed there was a wide range of different perspectives among the participants, which was expected. Even though the questionnaire and technique was explained at the beginning of the workshop, some of the participants found it difficult to answer this question. The responses also indicated that this question was also answered from a very narrow perspective. The feedback session proved to be very useful in that the participants included responses that they had not recorded on the questionnaires. Most of the participants answered mainly from the perspective of a problem situation and later discussed possible or desirable improvements to be made by the academic department. Some of the comments indicated that students are trouble-makers, staff are unapproachable, there is a need for quicker response times, and students wanted improvement of the university's physical infrastructure.

Summary of the responses of the participants for the **OWNER** element of CATWOE:

Those at the university that have decision-making authority.

A considerable number of the responses indicated that executive management of the university have the authority to address unsatisfactory service delivery. However, during the feedback session a rigorous debate concluded that all stakeholders (executive management, staff, students, parents, HOD's, Deans, CPQA, government) can rid the system of unsatisfactory service delivery.

Summary of the responses of the participants for the **ENVIRONMENTAL CONSTRAINT** element of CATWOE:

The social and political environment in which the department operates within the context of the university.

It was interesting to see from a staff perspective that it was felt that university campuses across the country have become political showgrounds. Students, however, felt that the student body cannot divorce education and politics. It was noted that a university operates in a multicultural environment and as such, cognisance should be given to the various multicultural elements.

6.4.4 The use of Boundary Judgement Questions to Develop Multiple Perspectives for the Evaluation of an Academic Department as Service Provider

In addition to the CATWOE analysis, Critical Systems Heuristics (CSH) developed by Ulrich (1983) was also used to reinforce the need for multiple perspectives. The purpose of CSH is to ensure that the views of all stakeholders, including those who might not be visible but are negatively affected by the proposed design, are considered.

The questions are divided into four groups comprising three questions each. Each group of questions attempts to identify the sources of motivation, power, knowledge, and legitimization (Ulrich, 1983). The questions were adapted for the evaluation and/or improvement of service quality of an academic department. The first set of questions (Appendix 5) aimed to determine the sources of motivation for the evaluation and improvement of service quality. In answer to the question: *Who ought to be the actual clients or recipients of a service offered by an academic department? Whose interest should be served?* All of the participants indicated that students are the primary recipients of the service offered by an academic department. In addition to students, some of the participants also mentioned parents, employers, society, industry

and South Africa as clients of the department. The second question, *What ought to be the purpose of the evaluation process? What ought to be the possible gains from the evaluation of service quality?* There were a variety of answers to this question. However, many of these responses were in agreement with the literature outlined in Chapters 2 and 3. A summary of the responses documented by the participants on the purposes of the evaluation process include: identifying good practices and highlighting areas for improvement; monitoring performance and ensuring accountability; enhancing the quality of service offered to students; and identifying departmental weaknesses and opportunities. There was general consensus on the possible spin-offs of the evaluation process: Improving service; greater buy-in from staff and students to their role in quality of service; students receiving efficient service; identifying needs; enhanced service culture; and feedback to department and the university.

The participants were fairly confident in determining whether the provision of improved services constitutes an improvement or not of service quality at the department. Participants documented improved results; student satisfaction; comparison of results from previous evaluation processes; benchmarking with other departments and other institutions of higher education; reduction in complaints by the students and on-going monitoring and evaluation to ensure outcome and impact are tracked.

The second set of questions aimed to determine the sources of power for the evaluation and improvement of service quality. The responses indicated that 40% of the participants believed that the Vice Chancellor, Deans and Heads of Departments have the power to change circumstances regarding the rendering of service quality in the department. It was also interesting to see that 35 % of the participants felt that students also had the power to change circumstances regarding service quality at the department. Other responses indicated that all stakeholders concerned have the power to change circumstances regarding service quality. The responses to what the decision-makers should not have control over were noteworthy. Many of the participants felt

that management, including the heads of department, should not have control or influence during the evaluation process as this would taint the process.

The third set of questions aimed to determine the sources of knowledge for the evaluation and improvement of service quality. The responses indicated strongly that expertise in service quality evaluation should be called upon. There was also a strong indication that external stakeholders such as quality promotion officers; individuals from the private sector; peer reviews and experts external to the university should be included in the evaluation process. The students who participated in the workshops also felt strongly that student representatives should form part of the evaluation panel. The feedback session also highlighted a need to consider consulting firms who have the expertise in service quality evaluation and government departments like the Council of Higher Education. The question, *who should be assumed to provide some guarantee of the proposed improvement of service quality in the department?* elicited varied responses from the HOD, SRC, executive management, students and government. This implies that there is likely to be more than one guarantor of the proposed improvement of service quality in the department.

The fourth set of questions aimed to determine the sources of legitimization for the evaluation and improvement of service quality. The first of the three questions in this set was, *who should represent the interests of those negatively affected by the service offered by the department?* The responses to this question were split between staff and students. Students felt strongly that the SRC should represent the interests of the students. Staff, however, felt that peers external to the department; faculty and university structures; the Dean and quality experts should represent the interests of those negatively affected. The second question in this set was, *how should those who have been disadvantaged/dissatisfied by the service be given a chance to express themselves?* A summary of the suggestions that were made follows:

- There should be a complaints and compliments box for individuals to express themselves.

- There should be open forum meetings to discuss issues of service quality between department and external stakeholders.
- A student ombudsman channel should be created whereby aggrieved students can be represented through the office of the Dean.
- Electronic service evaluations should be completed at the end of each service.
- Management should meet with students more regularly to determine if they are satisfied with the service they are receiving.

The third question in this set was, *what space is available for reconciling differing worldviews regarding service quality among the involved (university staff) and the affected (the students)?* It was interesting to witness a discrepancy in the responses. The academic and administration staff of the university felt there was no space provided for reconciling different worldviews regarding service quality. However, the management of the institution who attended the workshop believed there are systems and structures currently in place to address these differences.

The feedback of the participants to CATWOE and the boundary questions provided a greater understanding of the issues associated with the evaluation of an academic department as a service provider. It was also evident that a number of the problems were centred on the softer or abstract issues rather than principles, procedures and hard technical issues. This accentuated the complexity of the problem whereby it was and always is imperative to deliberate the hard and soft issues centred on service quality.

6.5 PRIORITIZATION OF FACTORS INFLUENCING THE IMPROVEMENT OF SERVICE QUALITY

After the brainstorming exercise which assisted in determining the important factors to consider in the improvement of service quality of an academic department, it was important to prioritise the criteria that were identified. The Multiple-Criteria Decision-Making (MCDM) model called the Analytic Hierarchy Process (AHP), which was developed by Saaty (1990) was used for the prioritisation process. A 1 – 9 point scale of the original AHP was used in measuring the judgements of the

participants through pairwise comparisons about the ratios of the weights of the criteria (Saaty, 1990). The participants made comparisons using the questionnaires (see Appendix 6). In order to proceed with the prioritisation process, the issues identified were as follows:

Organisational Issues:

- Develop and install a service quality evaluation system at the university.
- Lack of ownership in ensuring and evaluating service quality.
- Create an organisational culture of efficient service delivery.
- Quality of service is not consistent across the university.
- Subject and lecturer evaluation practices to incorporate elements of service quality.

Educational Issues:

- Provide skills training to develop customer service.
- New General Education & Training curriculum to incorporate a module on service delivery.

Staff and Student Issues:

- Students to know their part in co-producing the service.
- Staff feel answerable to many bosses.
- Staff to exercise courtesy towards students.

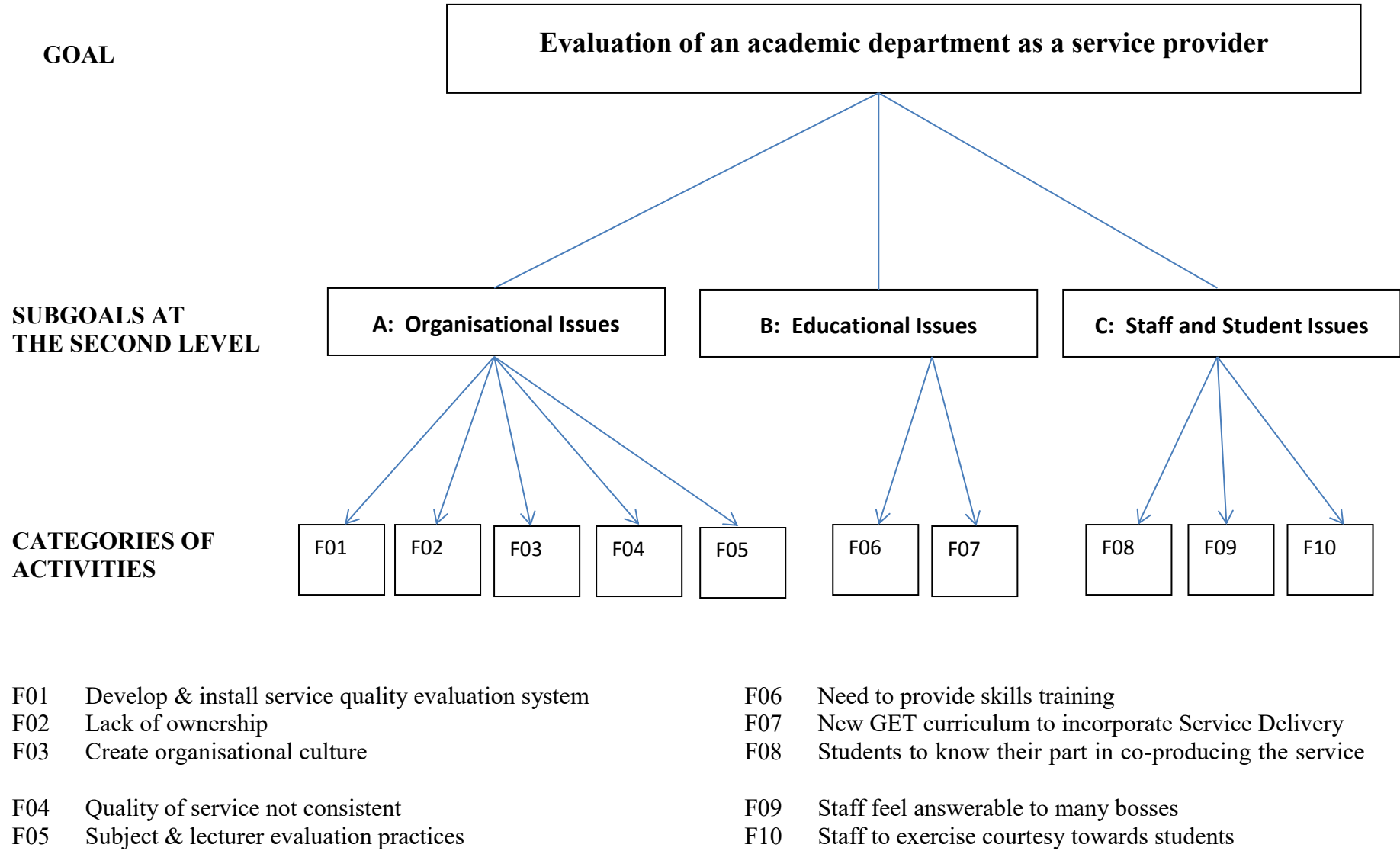


Figure 6.2 A Hierarchical representation of the criteria for the improvement of Service Quality.

In Figure 6.2 the holistic nature of the hierarchy is depicted as well as how it focuses the attention of the stakeholders in the evaluation process. The tacit feelings of the participants expressed during the SSM session received a specific expression through the process leading to prioritisation of the factors affecting the improvement of service quality. The implementation of the Multiple Criteria Decision Analysis (MCDA) model for the evaluation of an academic department as a service provider at a university of technology was conducted with the groups.

In determining the issues that are considered most significant to the improvement of service quality, it is essential to prioritise the criteria outlined in the second and third tier of the hierarchy. This is achieved by undertaking a pairwise comparison. The pairwise comparison was processed with the software, Expert Choice.

The sample consisted of 27 respondents who were members of staff at both the Pietermaritzburg and Durban campuses of DUT. The responses were collected using a convenience sampling technique. This sampling technique is a form of non-probability sampling. There were 12 respondents who came from the Pietermaritzburg campus and 15 respondents who came from the Durban campus of the Durban University of Technology. The responses were collected from a questionnaire given out to the respondents comprising pairwise comparisons between the factors that make up the objectives. This questionnaire is in Appendix 6. The responses were captured in a software package called Expert Choice (Version 11) and the results were processed by taking the aggregated group judgments as the geometric mean of the individual comparisons and following Aczel and Saaty (1983) using the Analytic Hierarchy Process (AHP).

The analysis will proceed in the following manner: Firstly an overall analysis will be done, thereafter individual analyses will be done for the Pietermaritzburg and Durban groups and finally an analysis will be done by combining and comparing Pietermaritzburg and Durban.

OVERALL - ALL 27 RESPONDENTS

We firstly consider the priorities for the objectives that relate to the goal i.e. Organisational, Educational and Staff and Student issues. The overall inconsistency index according to Saaty (1990) should be less than 0.1.

OVERALL OBJECTIVES

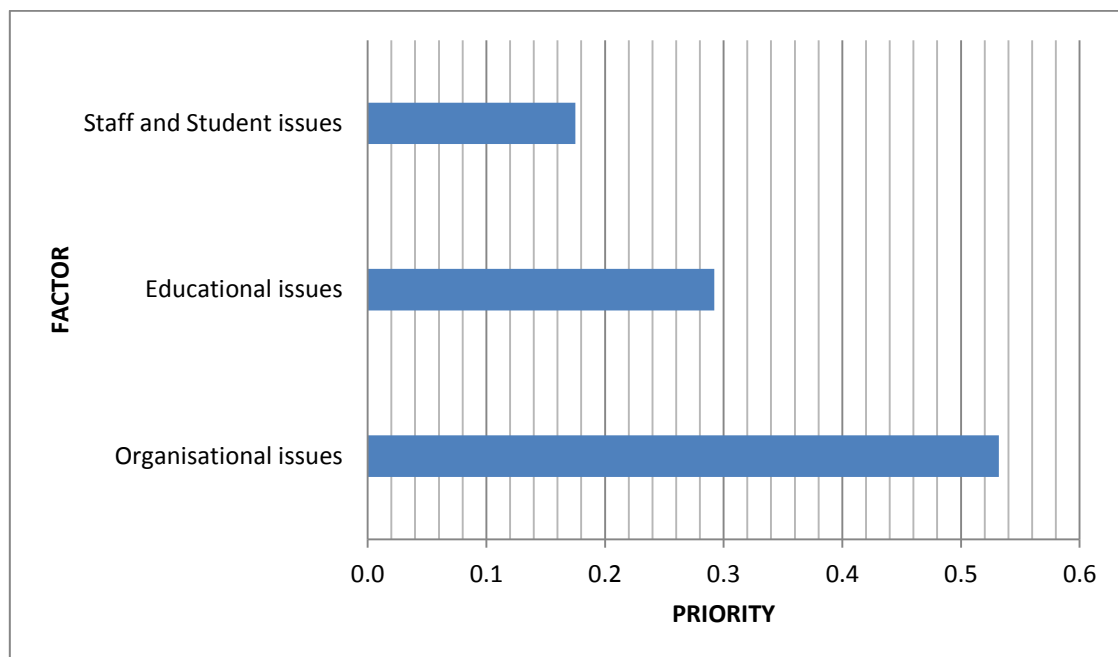


Figure 6.3: Priorities for the Second Level Issues: Staff and Student Issues; Educational Issues and Organisational Issues

Table 6.3: Priority table for the Second Level Issues: Staff and Student Issues; Educational Issues and Organisational Issues

| Factor | Priority |
|--------------------------|----------|
| Organisational issues | 0.532 |
| Educational issues | 0.292 |
| Staff and Student issues | 0.175 |

We find that the Organisational issues (0.532) and the Educational issues (0.292) had the highest priorities as reflected by all the respondents. The inconsistency index was found to be 0.02 and this is acceptable.

We now consider the global priorities in relation to the goal of evaluating the service quality of an academic department.

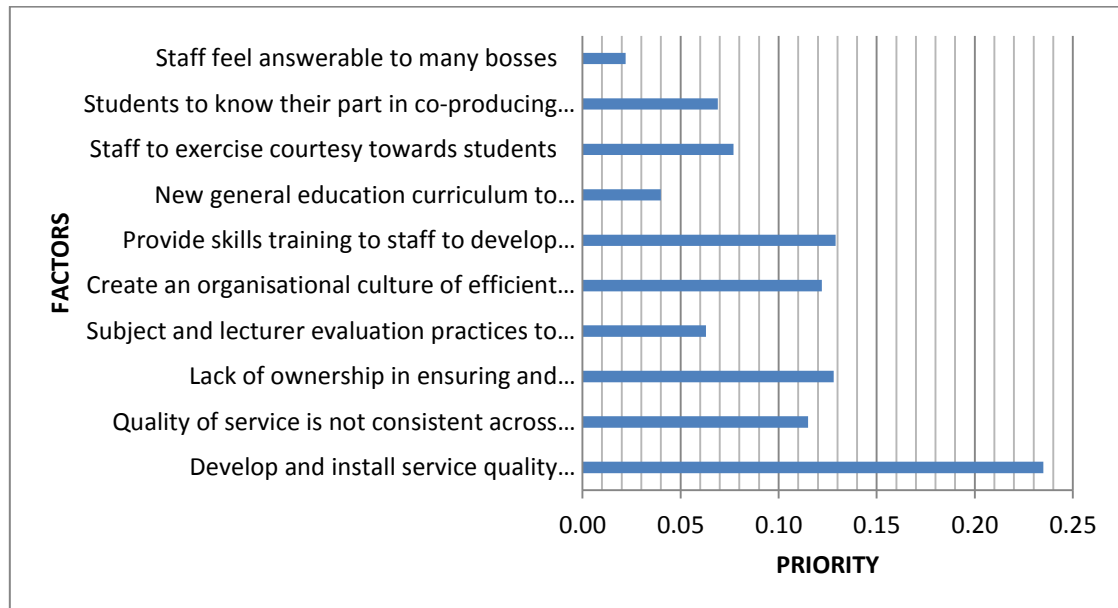
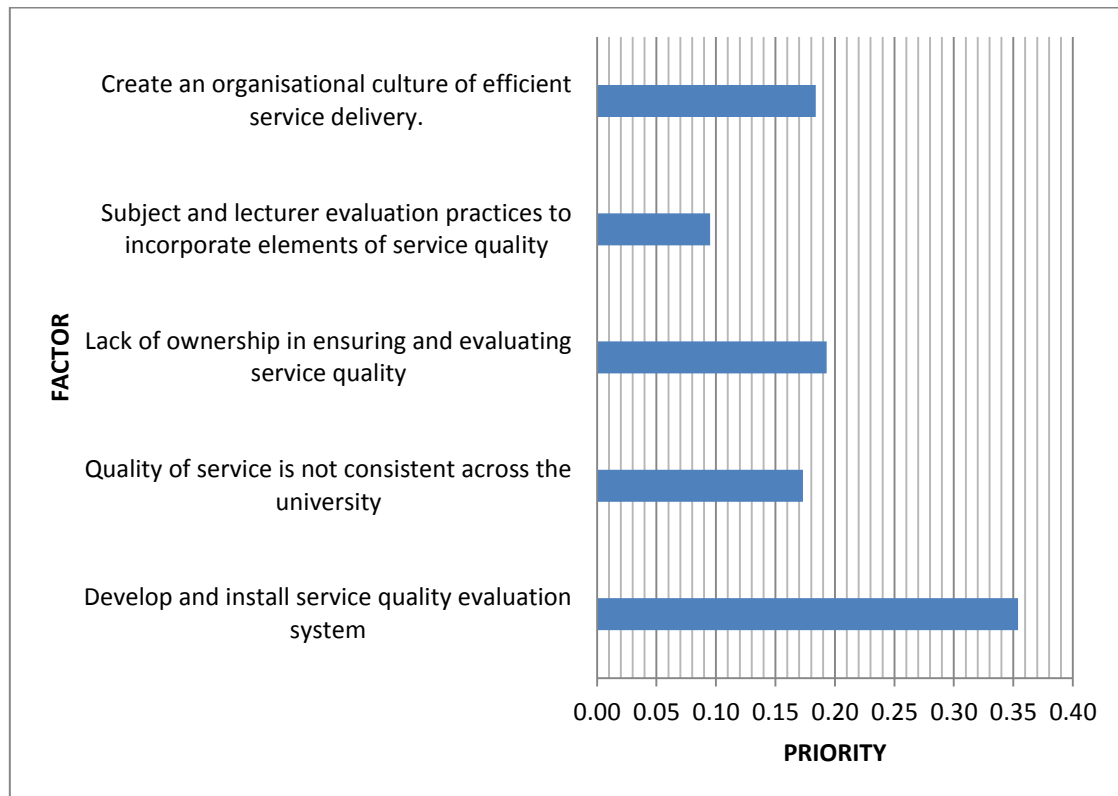


Figure 6.4: Global priorities with respect to the main goal: Evaluation of an Academic department as a service provider at a UOT

Table 6.4: Priority table for global priorities with respect to the main goal: evaluation of an academic department as a service provider at a UOT

| Factor | Priority |
|---|----------|
| Develop and install a quality service evaluation system at the University | 0.235 |
| Quality of service is not consistent | 0.115 |
| Lack of ownership in ensuring and evaluating service quality | 0.128 |
| Subject and lecturer evaluation practices | 0.063 |
| Creating an organisational culture of efficient service delivery | 0.122 |
| Provide skills training to develop customer service | 0.129 |
| New GET curriculum to incorporate a module on service delivery | 0.040 |
| Staff to exercise courtesy towards students | 0.077 |
| Students to know their part in co-producing the service | 0.069 |
| Staff feel answerable to many bosses | 0.022 |

The inconsistency factor was found to be 0.08. The results reveal that the Develop and install a quality service evaluation system at the university (0.235), Provide skills training to develop customer service (0.129) and Lack of ownership in ensuring and evaluating service quality (0.128) were the issues that were found to be the most important in contributing towards the overall goal of evaluating the service quality of and academic department. These variables account for 49.2% of the importance in explaining service quality of an academic department.

ORGANISATIONAL ISSUES**Figure 6.5: Local Priorities with respect to organisational issues****Table 6.5: Priority table for Local Priority: Organisational Issues**

| Factor | Priority |
|---|----------|
| Develop and install a quality service evaluation system at the University | 0.354 |
| Quality of service is not consistent | 0.173 |
| Lack of ownership in ensuring and evaluating service quality | 0.193 |
| Subject and lecturer evaluation practices | 0.095 |
| Creating an organisational culture of efficient service delivery | 0.184 |

Within the objective of organisational issues it is noted that the most important factors were Develop and install a quality service evaluation system at the university (0.354), Lack of ownership in ensuring and evaluating service quality (0.193) and Quality of service is not consistent across the university (0.173). These three variables account

for 72% of the importance of organisational issues. The inconsistency index was found to be 0.099.

EDUCATIONAL ISSUES

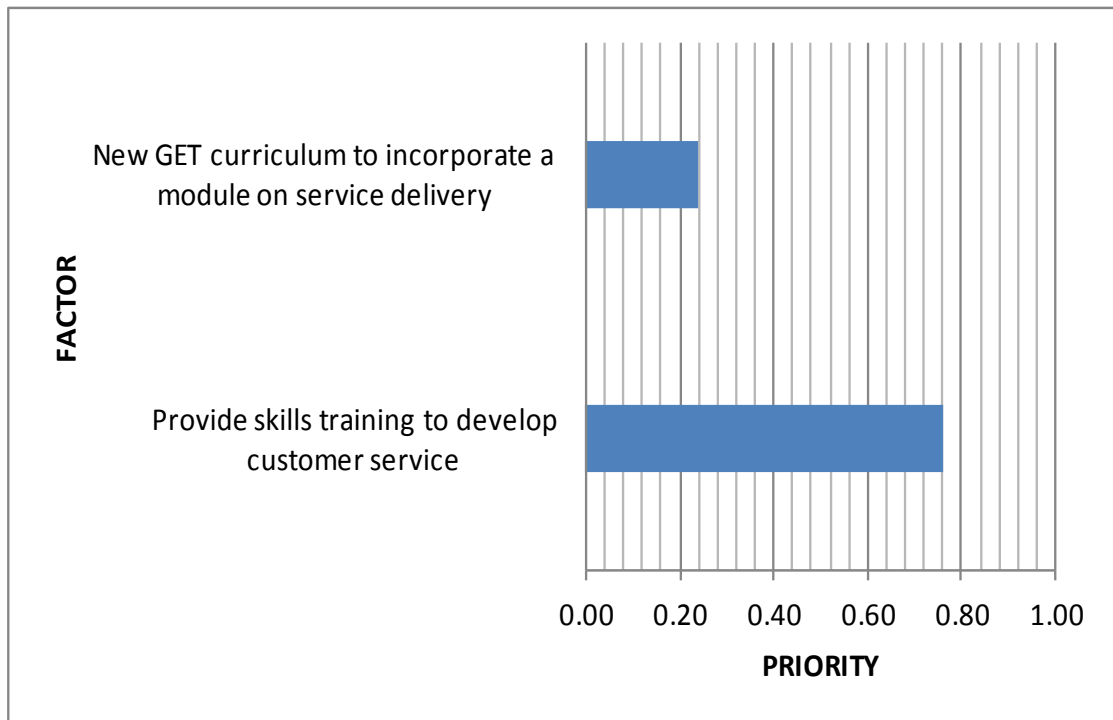
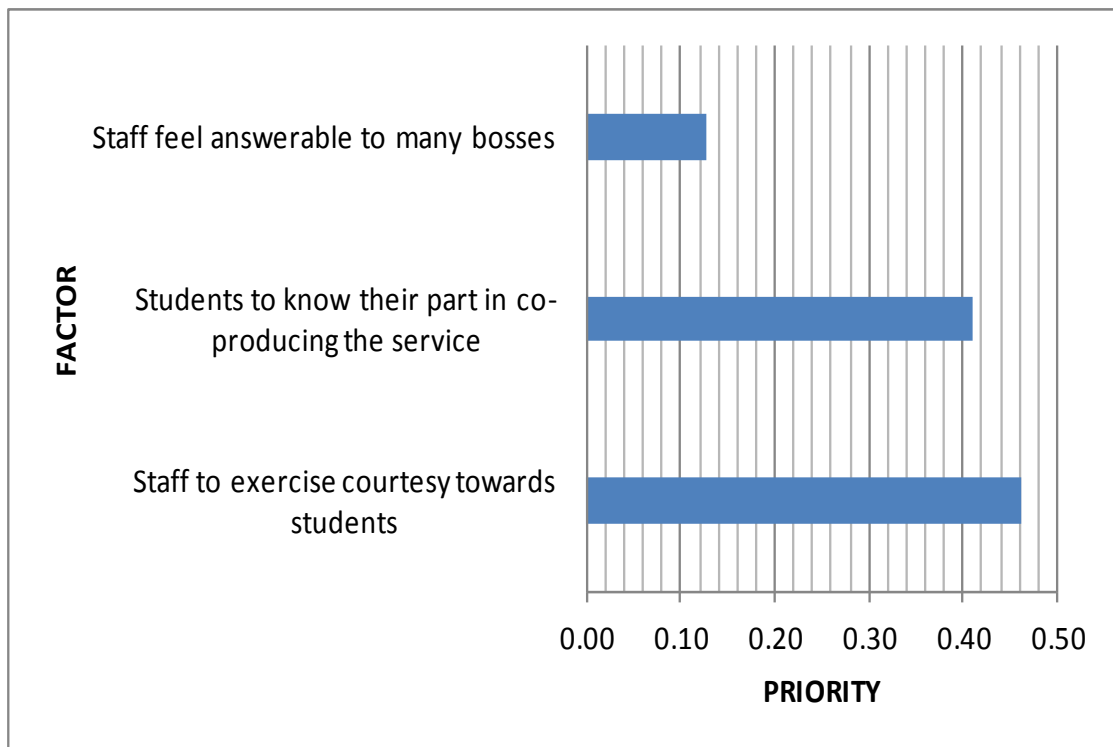


Figure 6.6: Local Priorities with respect to Educational Issues

Table 6.6: Priority table for Local Priority: Educational Issues

| Factor | Priority |
|--|----------|
| Provide skills training to develop customer service | 0.762 |
| New GET curriculum to incorporate a module on service delivery | 0.238 |

Under educational issues, Provide skills training to develop customer service (0.762) accounts for 76.2% of the importance in explaining educational issues. The inconsistency index was found to be 0.000.

STAFF AND STUDENT ISSUES**Figure 6.7: Local Priorities with respect to Student and Staff Issues****Table 6.7: Priority table for Local Priority: Student and Staff Issues**

| Factor | Priority |
|---|----------|
| Staff to exercise courtesy towards students | 0.461 |
| Students to know their part in co-producing the service | 0.411 |
| Staff feel answerable to many bosses | 0.128 |

The research reveals that the overall inconsistency index was 0.02. The most important issues were found to be Staff to exercise courtesy towards students (0.461) and Students to know their part in co-producing the service (0.411) which account for 87.2% of the importance in explaining staff and student issues.

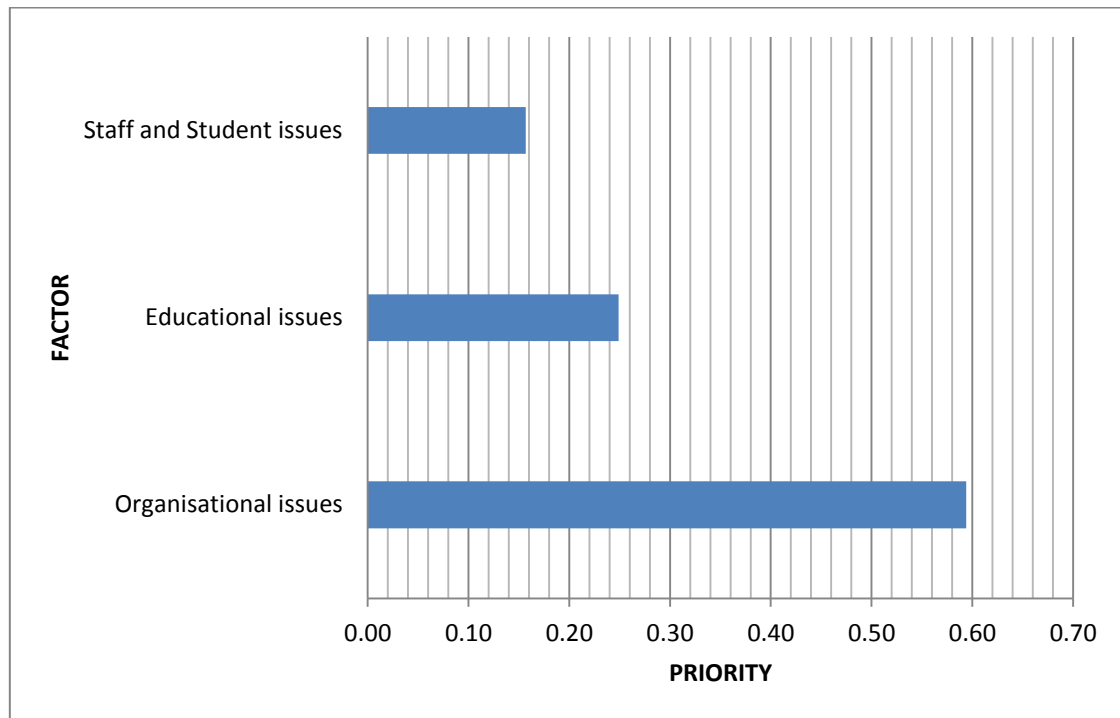
PIETERMARITZBURG OBJECTIVES

Figure 6.8: Priorities for the Second Level Issues: Staff and Student Issues; Educational Issues and Organisational Issues (Pietermaritzburg)

Table 6.8: Priority table for the Second Level Issues: Staff and Student issues; Educational Issues and Organisational Issues (Pietermaritzburg)

| Factor | Priority |
|--------------------------|----------|
| Organisational issues | 0.594 |
| Educational issues | 0.249 |
| Staff and Student issues | 0.157 |

The overall inconsistency index was found to be 0.05. One can see from Figure 6.8 above that Organisational issues had the highest priority of 0.594, followed by Educational issues (0.249) and Staff and Student issues (0.157).

The overall global priorities relating to the goal of Evaluation of the service quality of a service department is given as:

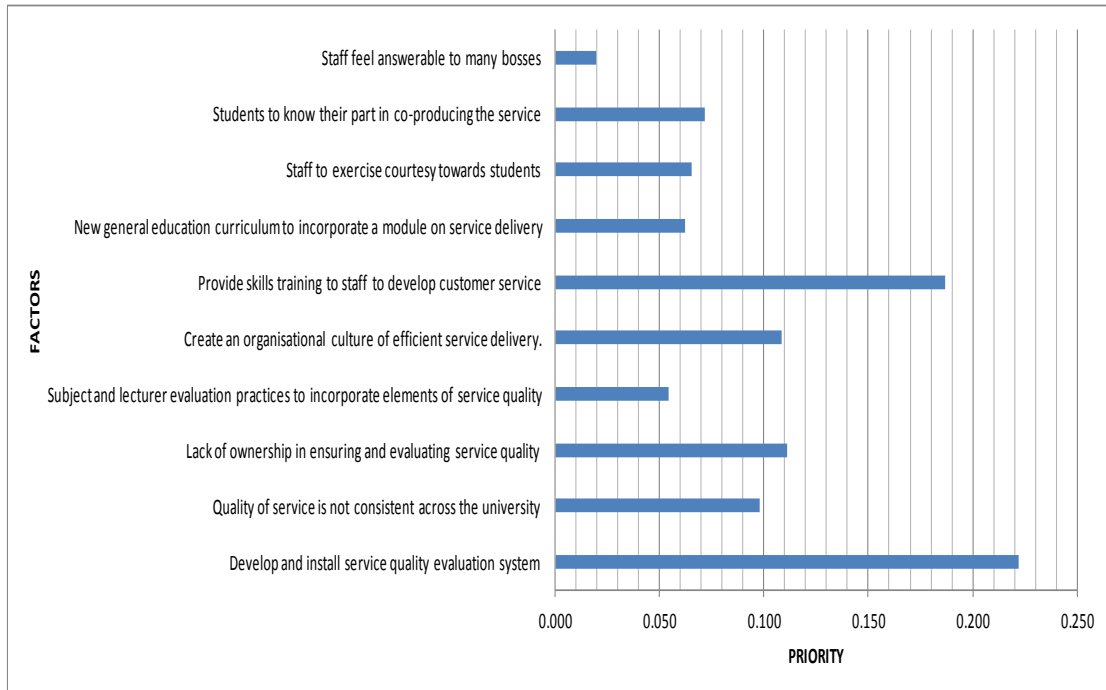


Figure 6.9: Global priorities with respect to the main goal: Evaluation of an academic department as a service provider at a UOT (Pietermaritzburg)

Table 6.9: Priority table with respect to the main goal: Evaluation of an academic department as a service provider at a UOT (Pietermaritzburg)

| Factor | Priority |
|--|----------|
| Develop and install service quality evaluation system | 0.222 |
| Quality of service is not consistent across the university | 0.098 |
| Lack of ownership in ensuring and evaluating service quality | 0.111 |
| Subject and lecturer evaluation practices to incorporate elements of service quality | 0.054 |
| Create an organisational culture of efficient service delivery. | 0.108 |
| Provide skills training to staff to develop customer service | 0.187 |
| New general education curriculum to incorporate a module on service delivery | 0.062 |
| Staff to exercise courtesy towards students | 0.065 |
| Students to know their part in co-producing the service | 0.072 |
| Staff feel answerable to many bosses | 0.020 |

The overall inconsistency index was found to be 0.08 which is in keeping with consistent judgments. One can see from the table above that the top four priorities were, Develop and install service quality evaluation system at the university (0.222), followed by Provide skills training to staff to develop customer service (0.187), Lack of ownership in ensuring and evaluating service quality (0.111) and Create an organisational culture of efficient service delivery (0.108). The results pertaining to each of the objectives are summarized below:

ORGANISATIONAL ISSUES

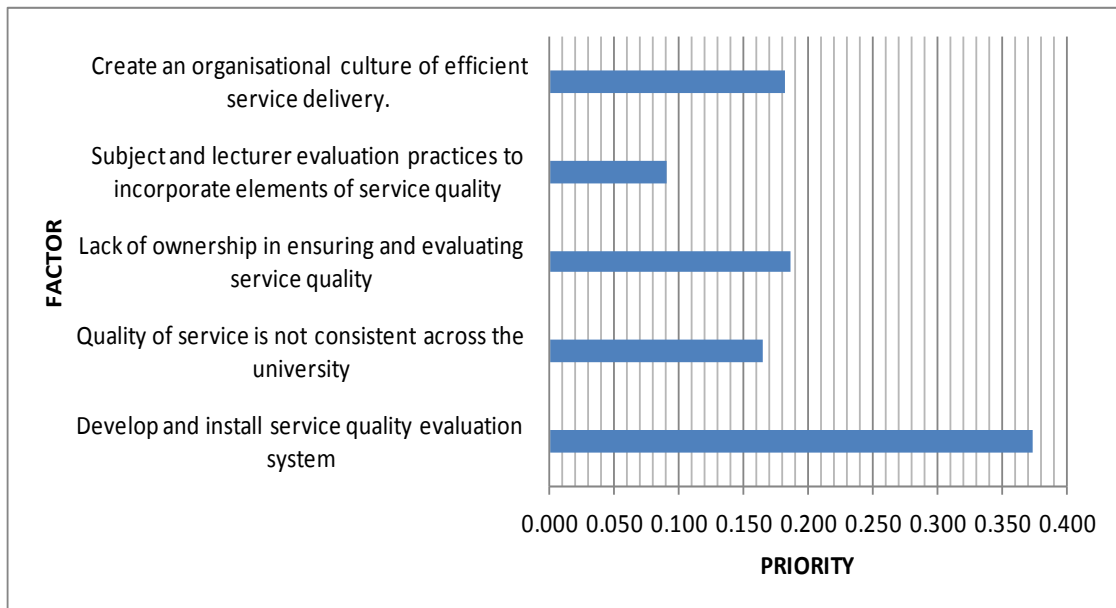


Figure 6.10: Local Priorities with respect to organisational issues (Pietermaritzburg)

Table 6.10: Priority table for Local Priority: Organisational Issues (Pietermaritzburg)

| Factor | Priority |
|--|----------|
| Develop and install service quality evaluation system | 0.374 |
| Quality of service is not consistent across the university | 0.165 |
| Lack of ownership in ensuring and evaluating service quality | 0.187 |
| Subject and lecturer evaluation practices to incorporate elements of service quality | 0.091 |
| Create an organisational culture of efficient service delivery. | 0.183 |

The overall inconsistency index was found to be 0.09. Within this objective the most important factors were found to be Develop and install service quality evaluation system (0.374) and Lack of ownership in ensuring and evaluating service quality (0.187).

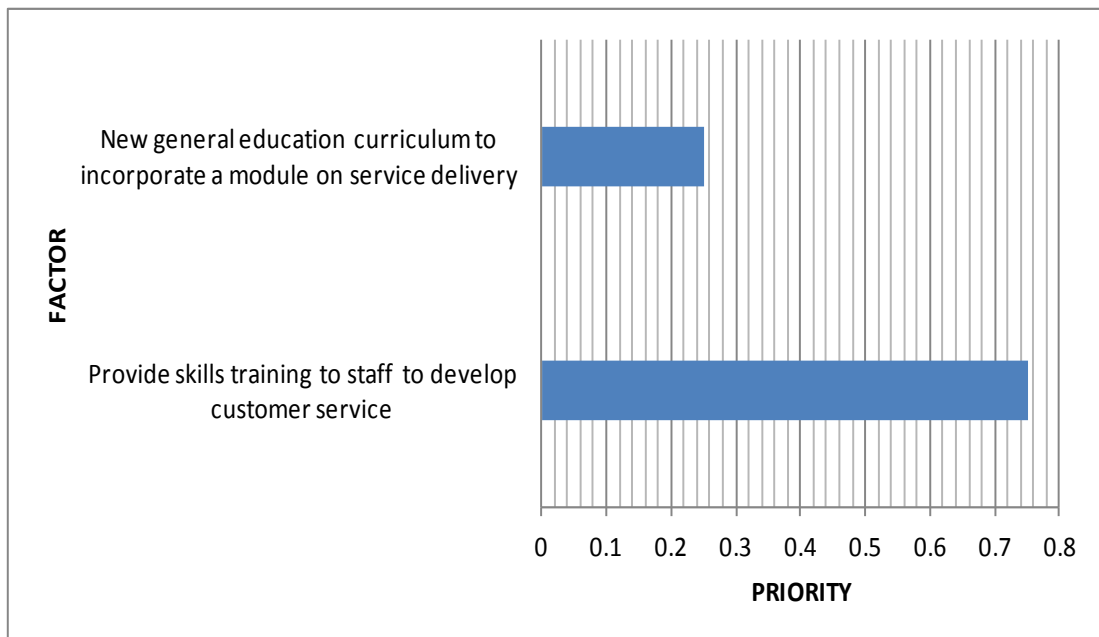
EDUCATIONAL ISSUES

Figure 6.11: Local Priorities with respect to Educational Issues (Pietermaritzburg)

Table 6.11: Priority table for Local Priority: Educational Issues (Pietermaritzburg)

| Factor | Priority |
|--|----------|
| Provide skills training to staff to develop customer service | 0.75 |
| New general education curriculum to incorporate a module on service delivery | 0.25 |

The overall inconsistency index was 0.0001 and the most important factor here was providing skills training to staff to develop customer service (0.75).

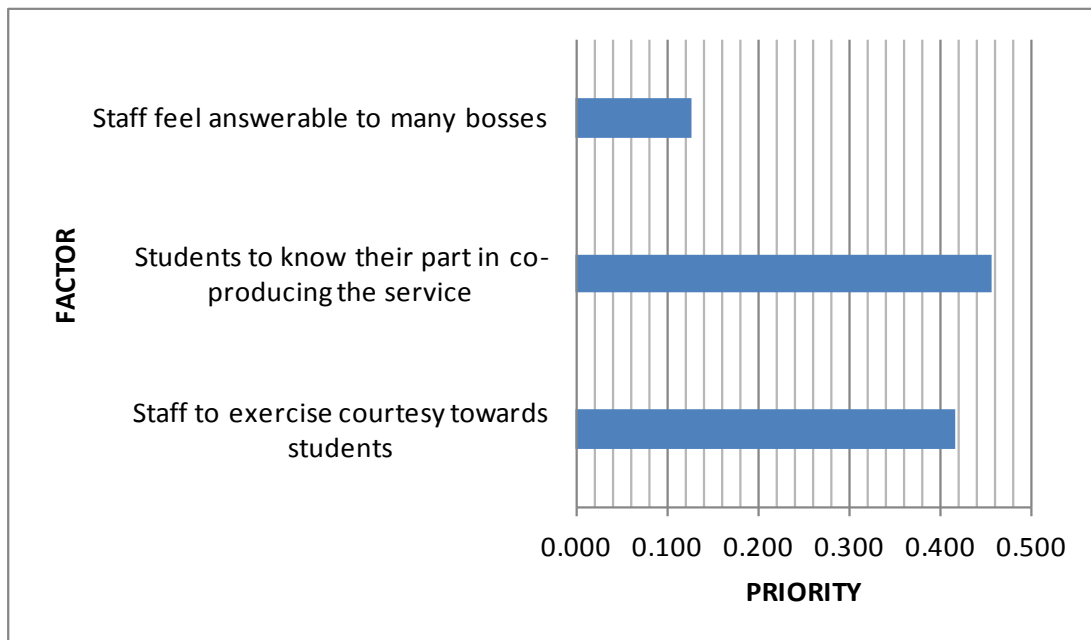
STAFF AND STUDENT ISSUES

Figure 6.12: Local Priorities with respect to Student and Staff Issues (Pietermaritzburg)

Table 6.12: Priority table for Local Priority: Student and Staff Issues (Pietermaritzburg)

| FACTOR | Priority |
|---|----------|
| Staff to exercise courtesy towards students | 0.416 |
| Students to know their part in co-producing the service | 0.458 |
| Staff feel answerable to many bosses | 0.126 |

The overall inconsistency index was found to be 0.01 which is less than 0.1 whilst the most important factors were prioritized as Students to know their part in co-producing the service (0.458) and Staff to exercise courtesy towards students (0.416).

DURBAN OBJECTIVES

We consider the prioritization of the objectives firstly.

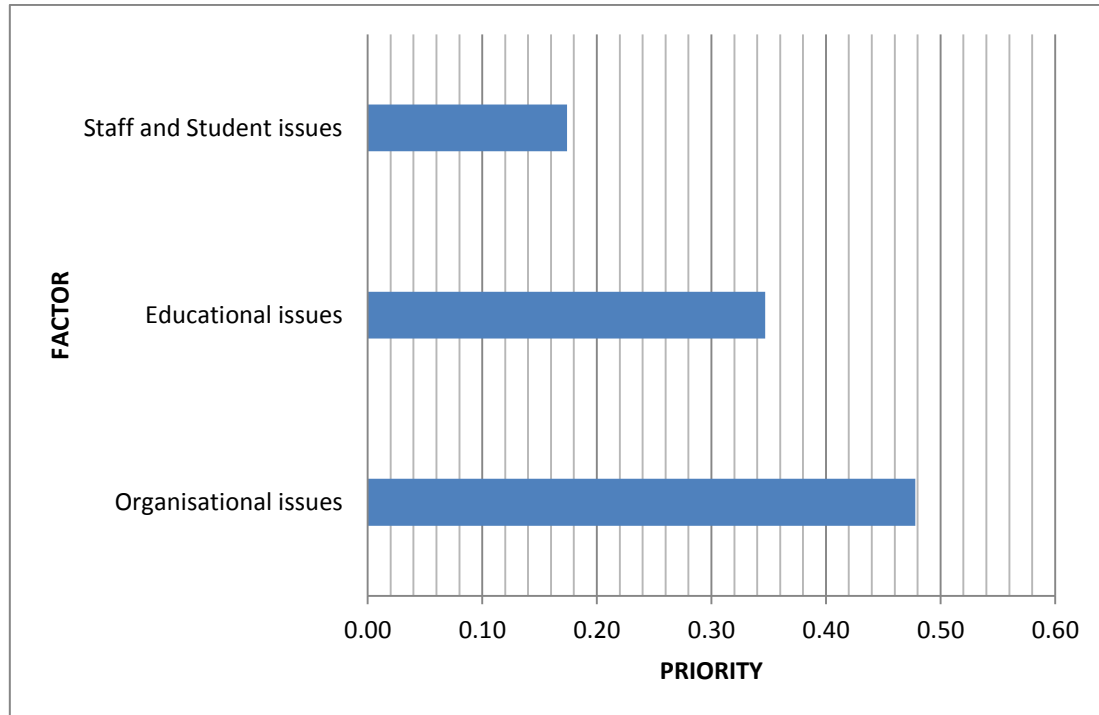


Figure 6.13: Priorities for the Second Level Issues: Staff and Student Issues; Educational Issues and Organisational Issues (Durban)

Table 6.13: Priority table for the Second Level Issues: Staff and Student Issues; Educational Issues and Organisational Issues (Durban)

| Factor | Priority |
|--------------------------|----------|
| Organisational issues | 0.478 |
| Educational issues | 0.347 |
| Staff and Student issues | 0.174 |

The overall inconsistency index was found to be 0.07. It is evident from the figure above that Organisational issues had the highest priority of 0.478 followed by Educational issues (0.347) and Staff and Student issues (0.174). The overall global

priorities relating to the goal of Evaluation of the service quality of a service department was given as:

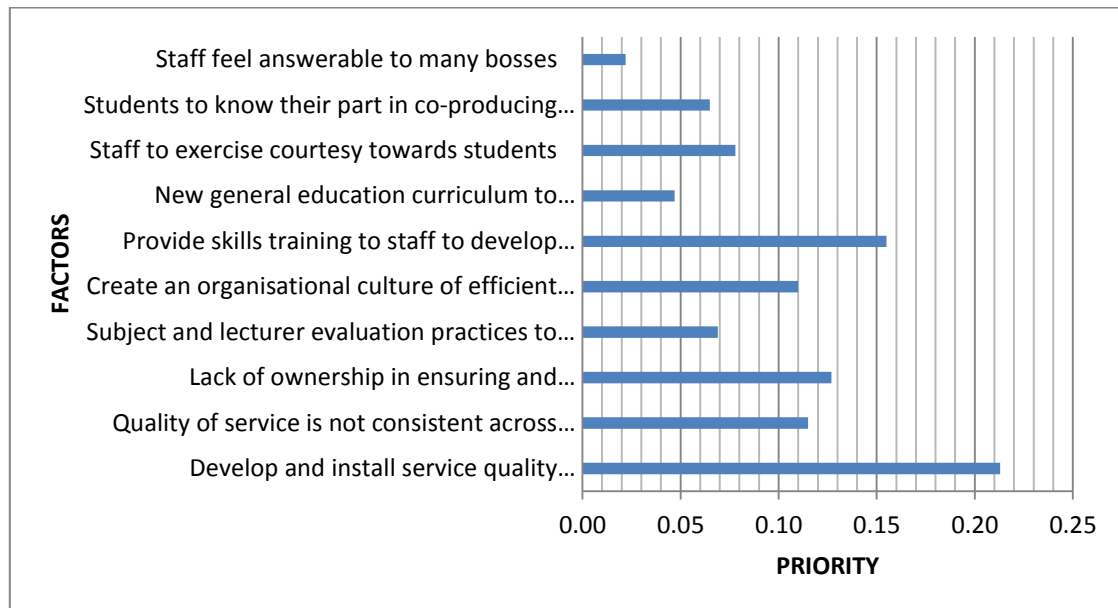


Figure 6.14: Global priorities with respect to the main goal: Evaluation of an academic department as a service provider at a UOT (Durban)

Table 6.14: Priority table with respect to the main goal: Evaluation of an academic department as a service provider at a UOT (Durban)

| Factor | Priority |
|---|----------|
| Develop and install a quality service evaluation system at the University | 0.213 |
| Quality of service is not consistent | 0.115 |
| Lack of ownership in ensuring and evaluating service quality | 0.127 |
| Subject and lecturer evaluation practices | 0.069 |
| Creating an organisational culture of efficient service delivery | 0.110 |
| Provide skills training to develop customer service | 0.155 |
| New GET curriculum to incorporate a module on service delivery | 0.047 |
| Staff to exercise courtesy towards students | 0.078 |
| Students to know their part in co-producing the service | 0.065 |
| Staff feel answerable to many bosses | 0.022 |

The overall inconsistency index is reported as 0.09, whilst one can see from the table above that the top four priorities were, Develop and install service quality evaluation

system at the University (0.213), followed by Provide skills training to staff to develop customer service (0.155), Lack of ownership in ensuring and evaluating service quality (0.127) and Quality of service is not consistent across the university (0.115).

We now address each of the factors that make up those objectives.

ORGANISATIONAL ISSUES

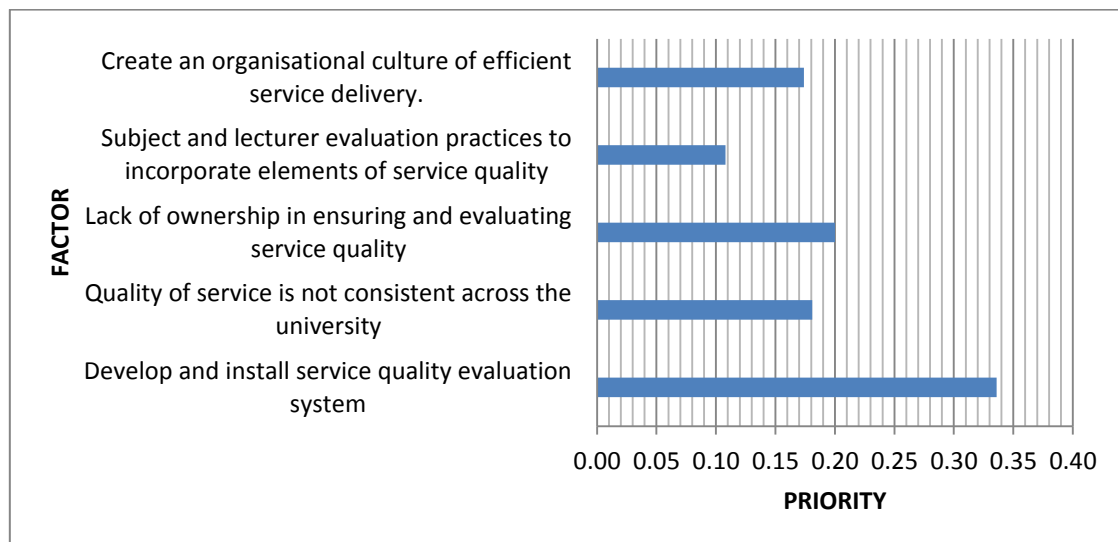
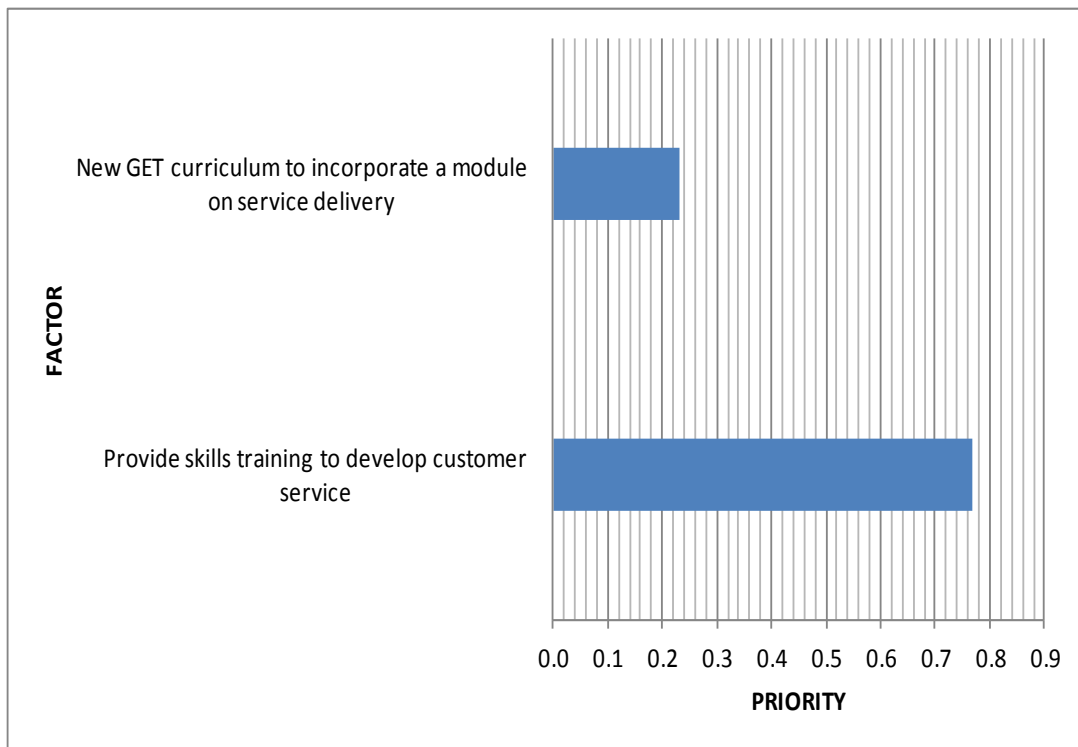


Figure 6.15: Local Priorities with respect to organisational issues (Durban)

Table 6.15: Priority table for Local Priority: Organisational Issues (Durban)

| Factor | Priority |
|---|----------|
| Develop and install a quality service evaluation system at the University | 0.336 |
| Quality of service is not consistent | 0.181 |
| Lack of ownership in ensuring and evaluating service quality | 0.200 |
| Subject and lecturer evaluation practices | 0.108 |
| Creating an organisational culture of efficient service delivery | 0.174 |

The overall inconsistency index was found to be 0.013. Within this objective the most important factors were found to be Develop and install service quality evaluation system (0.336) and Lack of ownership in ensuring and evaluating service quality (0.200) followed by Quality of service is not consistent across the university (0.181).

EDUCATIONAL ISSUES**Figure 6.16: Local Priorities with respect to Educational Issues (Durban)****Table 6.16: Priority table for Local Priority: Educational Issues (Durban)**

| Factor | Priority |
|--|----------|
| Provide skills training to develop customer service | 0.767 |
| New GET curriculum to incorporate a module on service delivery | 0.233 |

The overall inconsistency index was 0.00001 and the most important factor here was providing skills training to staff to develop customer service (0.767).

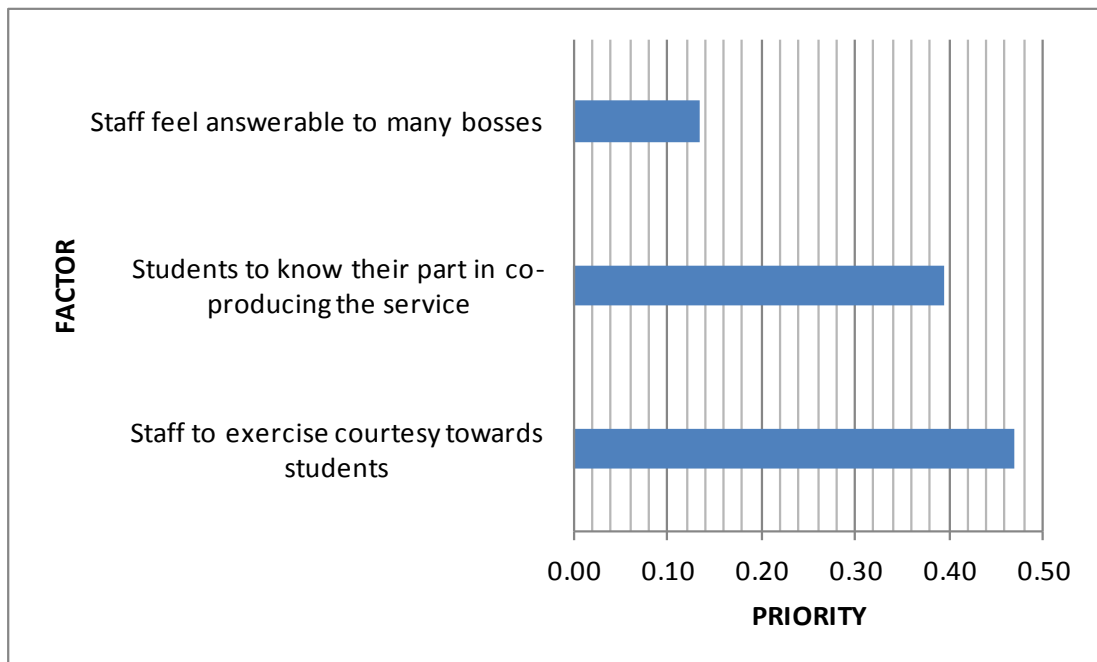
STAFF AND STUDENT ISSUES

Figure 6.17: Local Priorities with respect to Staff and Student Issues (Durban)

Table 6.17: Priority table for Local Priority: Staff and Student Issues (Durban)

| Factor | Priority |
|---|----------|
| Staff to exercise courtesy towards students | 0.471 |
| Students to know their part in co-producing the service | 0.396 |
| Staff feel answerable to many bosses | 0.133 |

The overall inconsistency index was found to be 0.03 which is less than 0.1 whilst the most important factors were prioritized as Staff to exercise courtesy towards students (0.471) and Students to know their part in co-producing the service (0.396).

OVERALL COMPARISON

We now focus our attention on the overall analysis between Pietermaritzburg and Durban but we will separate out the priority scores pertaining to each centre. This was done using the group decision mode in Expert Choice.

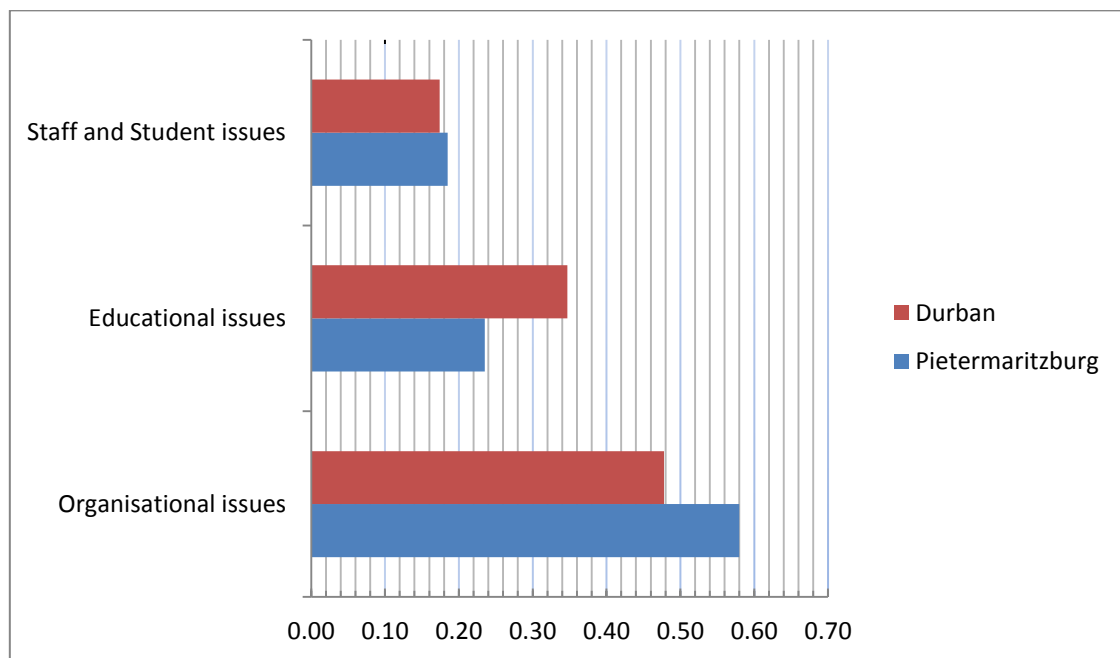


Figure 6.18: Priorities for the Second Level Issues: Staff and Student Issues; Educational Issues and Organisational Issues (Durban versus Pietermaritzburg comparison)

Table 6.18: Priority table for the Second Level Issues: Staff and Student Issues; Educational Issues and Organisational Issues (Durban versus Pietermaritzburg comparison)

| Factor | Pietermaritzburg | Durban |
|--------------------------|------------------|--------|
| Organizational issues | 0.580 | 0.478 |
| Educational issues | 0.235 | 0.347 |
| Staff and Student issues | 0.185 | 0.174 |

It is evident from the figure above, that Organisational issues had the highest priorities in both Pietermaritzburg and Durban with the Organisational priority at Pietermaritzburg being higher than that of Durban. The second most important objective was the Educational issue with Durban having a higher priority (0.347) than that of Pietermaritzburg. Staff and student issues are of a similar magnitude across both campuses but are ranked the least important on both campuses as well. The overall global priorities relating to the goal of evaluation of the service quality of an academic department is given as:

OVERALL GLOBAL PRIORITIES

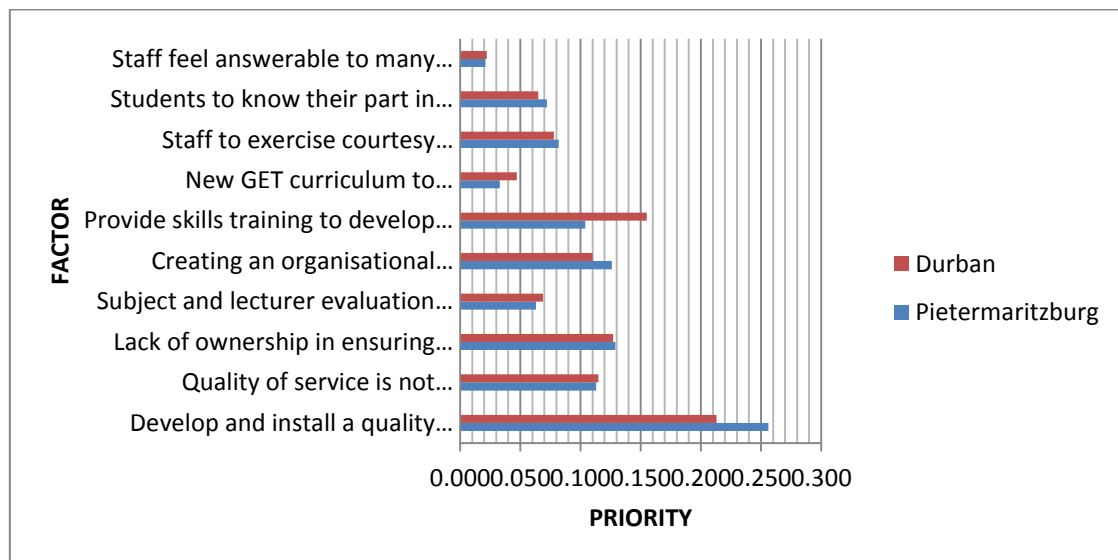


Figure 6.19: Global priorities with respect to the main goal: Evaluation of an academic department as a service provider at a UOT (Durban versus Pietermaritzburg comparison)

Table 6.19: Priority table with respect to the main goal: Evaluation of an academic department as a service provider at a UOT (Durban versus Pietermaritzburg comparison)

| Factor | Pietermaritzburg | Durban |
|---|------------------|--------|
| Develop and install a service quality evaluation system at the University | 0.256 | 0.213 |
| Quality of service not consistent across the university | 0.113 | 0.115 |
| Lack of ownership in ensuring and evaluating service quality | 0.129 | 0.127 |
| Subject and lecturer evaluation practices to incorporate elements of service delivery | 0.063 | 0.069 |
| Create an organisational culture | 0.126 | 0.110 |
| Provide skills training to staff to develop customer service | 0.104 | 0.155 |
| New GET curriculum to incorporate a module on service delivery | 0.033 | 0.047 |
| Staff to exercise courtesy to students | 0.082 | 0.078 |
| Students to know their part in co-producing the service | 0.072 | 0.065 |
| Staff feel answerable to many bosses | 0.021 | 0.022 |

It is evident from the research that the most important priorities for Pietermaritzburg Campus were Develop and install a service quality evaluation system at the university (0.256), Lack of ownership in ensuring and evaluating service quality (0.129) and Create an organisational culture (0.126). These three factors constitute 51.1% of the importance in priorities in Pietermaritzburg. On the other hand, the most important priorities in Durban were Develop and install a service quality evaluation system at the University (0.213), Provide skills training to staff to develop customer service (0.155) and Lack of ownership in ensuring and evaluating service quality (0.127). The three factors constitute 49.5% of the importance of the priorities for the Durban campus. One can see that there are also differences between priorities of variables such as Create an organisational culture and Provide skills training to staff to develop customer service across both campuses.

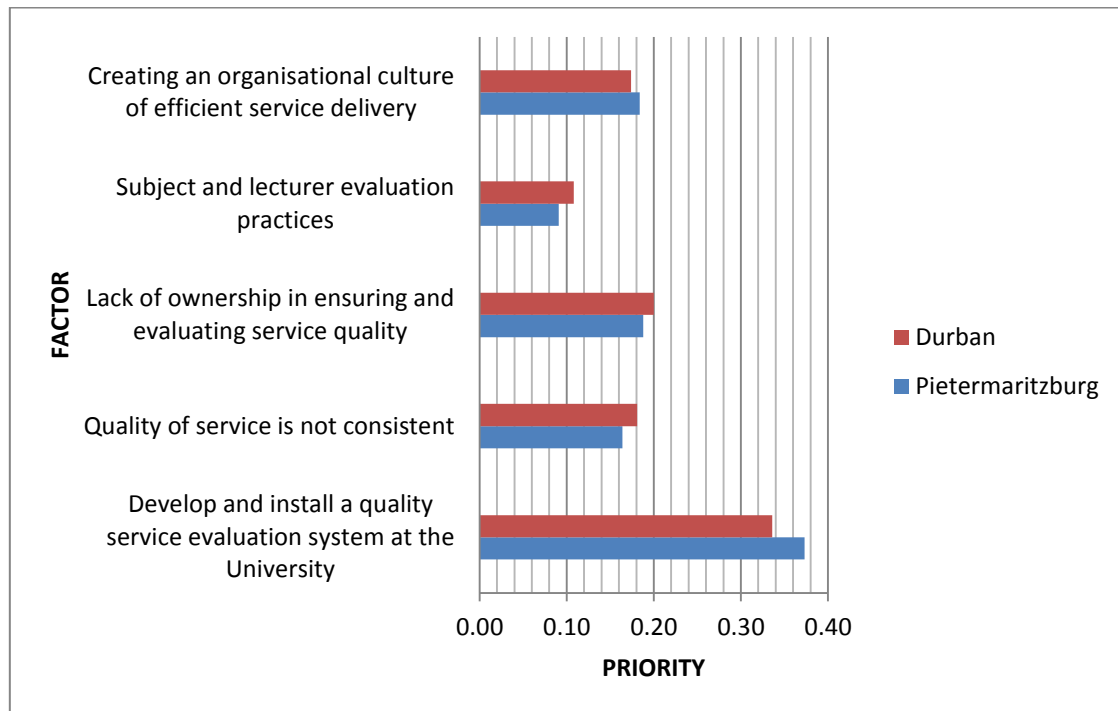
ORGANISATIONAL ISSUES

Figure 6.20: Local Priorities with respect to organisational issues (Durban versus Pietermaritzburg comparison)

Table 6.20: Priority table for Local Priority: Organisational Issues (Durban versus Pietermaritzburg comparison)

| Factor | Pietermaritzburg | Durban |
|---|------------------|--------|
| Develop and install a service quality evaluation system at the university | 0.373 | 0.336 |
| Quality of service not consistent across the university | 0.164 | 0.181 |
| Lack of ownership in ensuring and evaluating service quality | 0.188 | 0.200 |
| Subject and lecturer evaluation practices to incorporate elements of service delivery | 0.091 | 0.108 |
| Create an organisational culture | 0.184 | 0.174 |

The Figure 6.20 above reveals that the top three priorities rated across the 2 campuses are similarly:

1. Develop and install a service quality evaluation system at the University.
2. Lack of ownership in ensuring and evaluating service quality.
3. Quality of service not consistent across the university.

Both campuses consider Subject and lecturer evaluation practices to incorporate elements of service delivery to be the least important.

EDUCATIONAL ISSUES

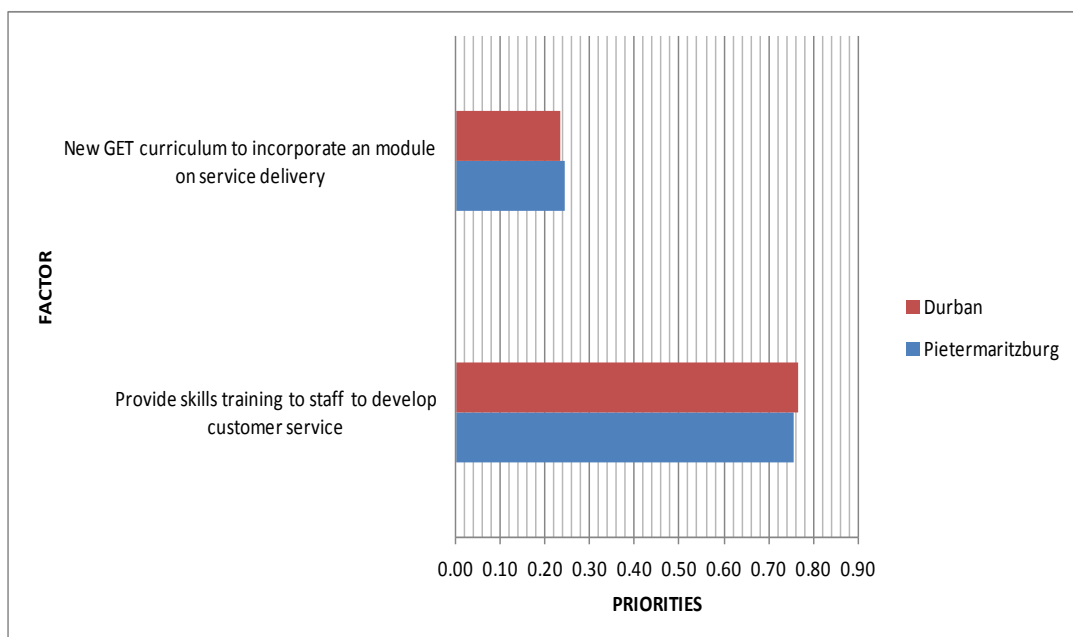


Figure 6.21: Local priorities with respect to Educational Issues (Durban versus Pietermaritzburg comparison)

Table 6.21: Priority table for Local Priority: Educational Issues (Durban versus Pietermaritzburg comparison)

| Factor | Pietermaritzburg | Durban |
|--|------------------|--------|
| Provide skills training to staff to develop customer service | 0.756 | 0.767 |
| New GET curriculum to incorporate a module on service delivery | 0.244 | 0.233 |

Both campuses consider Provide skills training to staff to develop customer service to be of the highest priority.

STAFF AND STUDENT ISSUES

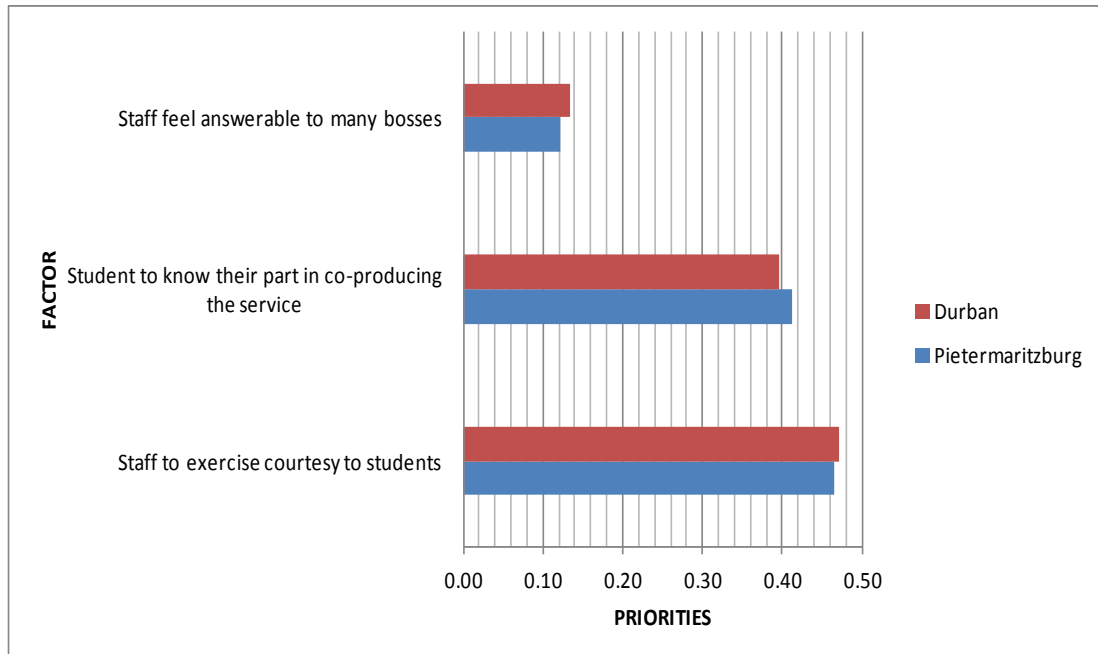


Figure 6.22: Priorities for the Second Level Issues: Staff and Student Issues; Educational Issues and Organisational Issues (Durban versus Pietermaritzburg comparison)

Table 6.22: Priority table for the Second Level Issues: Staff and Student Issues; Educational Issues and Organisational Issues (Durban versus Pietermaritzburg comparison)

| Factor | Pietermaritzburg | Durban |
|---|------------------|--------|
| Staff to exercise courtesy to students | 0.465 | 0.471 |
| Students to know their part in co-producing the service | 0.413 | 0.396 |
| Staff feel answerable to many bosses | 0.122 | 0.133 |

Both campuses considered Staff to exercise courtesy to students and Students to know their part in co-producing the service to be of the highest priorities.

There are some salient aspects of the research which need to be highlighted, for example organisational and educational issues are key to providing an effective service quality to any academic department. The most important variables noted overall were Develop and install a quality service evaluation system at the University, Provide skills training to develop customer service and Lack of ownership in ensuring and evaluating service quality. Pietermaritzburg and Durban campuses are similar with respect to their most important priorities but differ in that the Durban campus requires more training skills to be imparted to their staff. One of the recommendations to Durban is to have more training courses for their staff, provide incentives to staff for re-training and focus on training staff specific to where there are areas requiring attention.

One of the limitations of the study is that the sample size was small and future research can be carried out across other departments with large samples of respondents.

6.6 REFLECTION ON THE APPROACH USED IN THE EVALUATION OF SERVICE QUALITY

In order to assess the effectiveness of the workshops, a post session questionnaire was conducted. The aim was to acquire information on the participants' satisfaction regarding:

- The approach undertaken for the evaluation of an academic department as a service provider;
- The importance and relevance to the problem;
- Aptness of the techniques used during the workshop, and
- To assist in validating the framework used for the evaluation of an academic department as a service provider at a UOT.

Towards that end, a convenience sample was selected from two sites of the Durban University of Technology, viz. 15 from Durban and 12 from Pietermaritzburg. A questionnaire (see Appendix 7) was designed to evaluate the researcher and the content of the workshop in so far as it relates to the techniques used during the workshop. The questionnaire was prepared in accordance with those used by DeSanctis, Poole, Limayen and Johnson (1990) in Group Decision Support Systems (GDSS). The participants were given a 7-point Likert Scale to express their views, that is:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Mildly Disagree
- 4 = Neutral
- 5 = Mildly Agree
- 6 = Agree
- 7 = Strongly Agree

The following items assessed the facilitator:

- V1. The facilitator clearly outlined the objectives of the workshop.
- V2. The facilitator displayed rich knowledge of Soft System Methodology (SSM) techniques.
- V5. I found the brainstorming exercise useful in generating ideas for the improvement of service delivery of an academic department.
- V9. I found working in a group beneficial.
- V10. I think Group Decision-Making is more useful than Individual Decision-Making in problems associated with service at a university.

While the following items assessed the aptness, importance and relevance of techniques used in the workshop:

- V3. The techniques used during the workshop helped me gain a better understanding of all the stakeholders involved in the delivery of service at an academic department.
- V4. The techniques (Stakeholder Analysis, Rich pictures, CATWOE, etc) assisted me in appreciating the dynamics involved in service delivery of an academic department.
- V6. I found the brainstorming exercise useful in generating ideas for the improvement of service delivery of an academic department.
- V7. I found the pairwise comparison technique relatively easy to follow.
- V8. I think that the Analytic Hierarchy Process (AHP) is an appropriate technique for the prioritization of factors.

An analysis of the participants responses are given in Table 6.23.

Table 6.23 Analysis of the participants' responses to the post session questionnaire

| Report | | V1 | V2 | V3 | V4 | V5 | V6 | V7 | V8 | V9 | V10 |
|--------|----------------|------|------|------|------|------|------|------|------|------|------|
| SITE | Mean | 6.33 | 5.58 | 6.17 | 6.08 | 5.92 | 5.50 | 5.33 | 5.75 | 6.00 | 6.00 |
| | Std. Deviation | 0.49 | 1.38 | 0.72 | 0.90 | 0.90 | 0.80 | 0.89 | 1.06 | 1.13 | 1.13 |
| | Median | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 5.50 | 5.00 | 6.00 | 6.00 | 6.00 |
| Pmb | Mean | 6.07 | 6.13 | 6.20 | 5.93 | 5.93 | 5.47 | 5.33 | 5.00 | 5.80 | 5.73 |
| | Std. Deviation | 0.70 | 0.52 | 0.77 | 0.88 | 0.80 | 0.64 | 0.72 | 0.65 | 0.77 | 0.80 |
| | Median | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 5.00 | 5.00 | 5.00 | 6.00 | 6.00 |
| Durban | Mean | 6.19 | 5.89 | 6.19 | 6.00 | 5.93 | 5.48 | 5.33 | 5.33 | 5.89 | 5.85 |
| | Std. Deviation | 0.62 | 1.01 | 0.74 | 0.88 | 0.83 | 0.70 | 0.78 | 0.92 | 0.93 | 0.95 |
| | Median | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 5.00 | 5.00 | 5.00 | 6.00 | 6.00 |
| Total | Mean | 6.19 | 5.89 | 6.19 | 6.00 | 5.93 | 5.48 | 5.33 | 5.33 | 5.89 | 5.85 |
| | Std. Deviation | 0.62 | 1.01 | 0.74 | 0.88 | 0.83 | 0.70 | 0.78 | 0.92 | 0.93 | 0.95 |
| | Median | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 5.00 | 5.00 | 5.00 | 6.00 | 6.00 |

The data (see Appendix 8) was analysed by using a statistical package, (IBM SPSS version 20). The results displayed in Table 6.23 above, indicate that the respondents approved of the manner in which the researcher facilitated and managed the workshop because the average responses for each item were well in excess of 4 and very close to

6. There were no significant differences between Pietermaritzburg and Durban participants in terms of the manner in which they rated the researchers' facilitation and management skills.

Aptness, importance and relevance of techniques used in the workshop:

Overall, the participants responded positively in relation to all items because the average responses for each item were in excess of 4. Their affirmation was more emphatic for items V3 and V4 which relates to the SSM techniques of analysis and less so for items V6, V7 and V8 which relates to the participants' ability to understand AHP techniques. There were no significant differences between Pietermaritzburg and Durban in relation to the rating of aptness, importance and relevance of techniques used in the workshop.

6.7 CONCLUSION

This chapter presented the results from the experimental implementation of the framework for the evaluation of an academic department as a service provider. It is evident from the analysis of the post session questionnaire that the participants were satisfied with the approach and the techniques used during the workshops.

The SSM techniques as well as the CSH Boundary Judgement Questions assisted with the diagnosis stage of the problem solving process. It is the view of the author that the framework can easily be adapted to any department/school/faculty at UOT and traditional universities. Minor modifications like the selection of a specific technique for a particular case, including the adoption of a decision making approach, can be made in the context of a particular higher education environment. This highlights its flexibility. The framework is applicable to any higher education environment and does not require specific prior data collection.

The process of evaluation was found to be straightforward to apply and relevant to service quality and higher education. The framework consists of several techniques from different methodologies and paradigms. It is justified through the role of

multimethodology, a concept for pluralist research and intervention (Mingers and Gill, 1997). It was evident that the selection of techniques assists in the learning process of gaining better appreciation for the interrelationships between factors affecting service delivery, which is related to what Reynolds (2011:38) termed as a learning device. The chapter also highlighted the prioritisation of factors for the improvement of service quality at an academic department at a university of technology.

The following chapter will discuss how the goals of the research were achieved, the practical and theoretical contributions of this research and possible directions for future research.

CHAPTER 7

CONCLUSION AND RECOMMENDATIONS

- 7.1 Introduction
- 7.2 How the goals of the research were achieved
- 7.3 The Theoretical and Practical contributions of the research
- 7.4 Directions for future research

7.1 INTRODUCTION

As reflected in the literature, service has become a key factor in the success of many organisations (see Lee, Ribeiro, Olson and Roig, 2007:2). Fitzsimmons and Fitzsimmons (2010:79) assert that services play an increasingly important role in economies both global and national. The competition among service providers, and universities are included as service providers, is increasing, and has become transnational, whereby the competition extends across borders and continents due to globalization. In order for the university to survive in this increasingly competitive market, it is imperative for the university to organise its operation according to the needs expressed by its customers.

The evaluation of an academic department as a service provider at a university is a complex process. Evaluation approaches are usually faced with challenges of dealing appropriately with complex social systems, where a variety of actors with different viewpoints, values, interests and motives are interacting. The findings of evaluation regularly depict a diverse picture of the reality of a project, especially when viewed through the eyes of various stakeholders. The danger of down-playing this complex picture using an inappropriate method will not only taint the credibility of the evaluation, but also garner resistance from those who feel misrepresented.

There are several caveats that should be carefully considered when dealing with complex “messy” situations or organisations like a university. The fundamental aspects of the complex situation should be fully interrogated and understood. The elements of the situation and the interrelationships among them should be recognized and the knowledge gained should inform any necessary action. The first caveat is one of developing a common understanding among the stakeholders of the situation who will have multiple perspectives on the problem situation. The second caveat is joining the common understanding into an organised form of knowledge that would lead to a framework for action that is flexible and applicable to changing situations.

The ultimate challenge will be to influence new practices and decisions for the improvement of all stakeholders.

Extensive analysis of the current evaluation practices was undertaken and it was found that a single approach was inadequate to cater for the dynamics of quality service provision at a university. It was incumbent therefore to propose a conceptual framework that was inclusive, transparent and flexible. The subsequent sections shall attempt to showcase how the goals of the project were achieved, and some directions for future research.

7.2 HOW THE GOALS OF THE RESEARCH WERE ACHIEVED

The main goal that guided the research was to develop a systemic framework for the evaluation of an academic department as a service provider at a UOT. As was concluded in Chapter Two, the issue of evaluation of academic departments as service providers is a complex, “messy” problem. To the best knowledge of the author there were no holistic evaluation approaches available to address the complex nature of universities as service organisations. It was thus imperative to explore approaches/techniques that were appropriate to deal with the complex and “messy” issues associated with academic departments as service providers. Section 1.4 in Chapter One of this thesis outlined the research approach and the methodological principles that guided this research towards the attainment of this goal. The method of research was action research.

Initial exploration on this project indicated that the systems approach would provide the catalyst for the development of the framework. The first sub-goal of the research was to investigate the current state of practice and research of evaluation of academic departments. Two research methods were used in achieving this sub-goal – the traditional literature survey and the interviewing of experts within the field of evaluation and evaluation practices at universities.

A survey and analysis of the current and salient literature was undertaken. The literature sources included recognised journals in the field of Evaluation, Quality Assurance, Higher Education, Systems Research and others, doctoral theses which included cases studies, research reports on South African Higher Education practices, and relevant South African Higher Education policy documents.

The second sub-goal of the research was to investigate research issues on service organisations and their applicability to tertiary institutions. This goal was also achieved by an extensive examination of the current literature on services and service marketing management. The purpose was to gain a deeper understanding of a university as a service organisation and highlighted the importance of the various stakeholders in rendering a service. The latter part of Chapter Three provided a conceptual overview of service as a system which was a precursor to the next sub-goal on systems methodologies.

In an attempt to move closer towards the goal of this research, the third sub-goal focussed on the investigation and analysis of suitable systems methodologies and techniques from the paradigm of systems thinking. The latter part of Chapter Four discussed a recent strand in systems thinking known as The Work Systems Method. Chapter Four also provided an analysis of Multiple Criteria Decision Making (MCDM) approaches. From a practical perspective, it was concluded that the Analytic Hierarchy Process (AHP) in its original version (Saaty, 1990) was a suitable candidate among the MCDM approaches. The ability to structure a complex problem and then shift attention on individual components amplifies decision-making.

An important finding of this research is that MCDA models on their own do not provide sufficient depth required for successful evaluation of academic departments as service providers. It is necessary to supplement their positive features with systems thinking characteristics which have a profound regard for interconnectedness and emergence.

The groundwork had been prepared and the stage gradually set for defining the product related to the main goal of this research, i.e. a conceptual pluralist framework for the evaluation of an academic department as a service provider at a UOT. The framework is based on a multi-methodological approach (Mingers and Gill, 1997) which combines several techniques from several paradigms in a complementary manner in one intervention. The framework presents a synthesis of multi-criteria decision-making, problem structuring techniques, work systems elements and Critical Systems Heuristics within the Multi-methodology framework of Mingers (1997), and enhanced by some aspects of the work of Midgley (1997). This allowed methods, models and techniques as parts of different methodologies, from different paradigms, to be brought together for the requirements of a particular intervention. As was shown in Chapter Five, an important obstacle is to justify a multi-paradigm framework recognising the problem of paradigm incommensurability.

Following Jackson's call for a coherent pluralism with Critical Systems Practice (Jackson, 1997), this framework seeks to encourage the full realisation of the potential of the stakeholders involved in service delivery and to contribute to the evaluation process. It involves identification of role players and issue generation and ranking from three perspectives technical, cultural and political, which is similar to the idea proposed in the different types of inquiry in SSM mode two (see Checkland and Scholes, 1990). Different ideas were borrowed from SSM: rich pictures, providing a greater understanding about the structure of the problem and the processes associated with it, as well as CATWOE analysis, which reveal the different *weltanschauungs* (world-views). The aforementioned techniques contributed via their interpretivist nature, the acquiring of a greater appreciation of the issues associated with the evaluation of an academic department as a service provider.

The emancipatory construct of the framework is provided through the answers to a series of boundary judgment questions, following the simplified form of Critical Systems Heuristics (CSH) of Ulrich (1998). The work system snapshot and the service responsibility tables borrowed from Alter (2006; 2008) were employed for

their pragmatism and flexible nature. The Analytic Hierarchy Process (AHP) (Saaty, 1990) was adopted for the following reasons, to overcome a lack of focus of the systems methods employed in the framework, and to be used as a descriptive and prescriptive decision theory along the definitions of these notions by Keeney (1992). It implies that AHP is seen just as a vehicle for making better-informed decisions by the evaluators and not as a normative technique, imposing a decision on the stakeholders involved. In addition, practitioners should be sensitive to the inclusive nature of systems thinking. This implies that regardless of the prioritisation ranking, there could be issues low on the priority list which might be more influential as leverage points in the systemic intervention.

The proposed selection of techniques for the framework was based on the idea that they should serve the social, personal and material worlds, described by Habermas (1984). It was organized along the recommendation of Mingers (1997); however, the mechanism of the intervention was based on the critical action cycle suggested by Midgley (1997). Although the techniques included in the framework are not novel, their combination and mechanism of integration, the process of the intervention and their justification were original, and constitute the theoretical contribution of this research which is not found in the literature, to the best knowledge of the author. Bowen (1998) asserts that a multimethodology framework for intervention can be formulated as a unique combination of techniques and one should own the methodology one uses, and it can be claimed to be owned by its author only after its practical implementation. Implicit in the achievement of the main goal of the research is the theoretical and practical validation of the framework, which was addressed in Chapter Six of the thesis.

The fifth sub-goal was to test the framework. A case study was used for the practical validation of the framework for the evaluation of an academic department. The framework was tested on an academic department of the Durban University of Technology and the process and results were covered in detail in Chapter six.

An analysis of the post session questionnaires indicated that the participants found the framework extremely useful. Participants at the workshop appreciated the insight gained from the use of SSM techniques such as rich pictures, CATWOE, Ulrich's Boundary questions and the pairwise comparisons.

7.3 THE THEORETICAL AND PRACTICAL CONTRIBUTIONS OF THIS RESEARCH

A convergence of inter-related economic, environmental and social drivers is shifting the landscape within which university-based knowledge generation takes place (see Wickson, Carew and Russel, 2006:1047). Horlick-Jones & Sime (2004:442) are of the belief that this shift in landscape calls for the development and broader application of research practices that differ from the "generalising, decontextualizing and reductionist" approach that has traditionally characterised disciplinary approaches to knowledge generation. This research has transcended disciplinary boundaries and can be characterized as transdisciplinary and interdisciplinary in nature. Although the area of concern falls within service quality, knowledge from other disciplines such as systems theory, systems thinking, evaluation, service marketing, higher education, multiple criteria decision making and operations research were justified in achieving the goal of the research. The following paragraphs highlight the theoretical contributions made by this research.

The study set out to gain a deeper understanding of the issues involved in service delivery at a university. Emphasis was placed on understanding the systemic relationships and recognising all stakeholders in the system and sought to interpret their perspectives, arguments and actions in relation to the organisational and social context. The study revealed that soft issues, issues of lower priority and "silent voices" require a vigorous and emancipatory framework which would consider and illuminate less obvious ideas. The theoretical contribution of this research is that a novel systemic framework for evaluation of an academic department as a service provider was proposed. The framework is constructed *firstly*, on the systemic

analysis and critique of the literature and current practices of evaluation in higher education as outlined in Chapters Two and Three, *secondly*, on the theoretical foundations of Critical Systems Thinking following some ideas of Jackson (2000), Flood (1995), and Midgley (2000), and *thirdly*, justified on the basis of a multimethodology (Mingers & Gill, 2007). It is a conceptual framework which is not rigid in nature but rather aims to provoke and elicit discourse in the arena of service quality at a university. It is therefore envisaged that new knowledge and new insights into evaluation of service and service delivery will be gained as the framework is applied to different university departments and situations. These are new theoretical contributions to the discipline of service quality.

On a practical side, this framework takes into account the student who traditionally has been excluded in the decision-making regarding service delivery. It also brings to the attention of the student that they are co-producers of a service. Universities by their design are seen as bureaucratic organisations with complex systems and procedures; however, the framework helps to dismantle this ideology and gain a deeper understanding of the issues at hand. Students who are regarded as important stakeholders in the system expressed a sense of inclusiveness and displayed ownership in the evaluation process.

Representatives from the faculty realised the importance of adopting an inclusive approach and involving other stakeholders in the decision making process. The results of the application of the framework also indicated that academic staff and administrative staff were very keen on improving their service to both students and other stakeholders. Apart from the Durban University of Technology, other universities both nationally and internationally could benefit from applying such a framework to their institutions.

7.4 DIRECTIONS FOR FUTURE RESEARCH

Possible areas for future related research as a result of this project include:

- The framework has been theoretically and practically validated. It is however, a conceptual framework that needs to be further tested and refined and become a current and established practice in the evaluation of academic departments at universities.
- Investigation of the actual contribution to the learning process of each of the techniques employed in the proposed framework should be undertaken.
- Based on the conceptual nature of the framework, this research could form the basis for developing a standardised measuring instrument for service delivery at universities.
- One of the important findings of this research was the need for collaboration with other concerned stakeholders, i.e. students, staff, parents, donors, government, management and other institutions. This paves the way for research into how this could be formalised and how the learning process could be measured.
- Application of a similar Multimethodology based combination of techniques to other complex management problems in different disciplines could be attempted.

It is worth noting that the reproduction of similar results in different environments would be unrealistic, however, it may be anticipated that there will be closeness in the outcomes of the application of this framework to similar organisations. The generalisation of such findings will determine a set of organisational features corresponding to a particular pattern of interaction and influence by the factors affecting service quality, and thus producing further indications for the improvement of service at a university.

REFERENCES

Abbott, M. and Doucouliagos, C. (2003) The efficiency of Australian universities: A Data Envelopment Analysis. *Economics of Education Review*, 22(1), pp 89 – 97.

Abdullah, F. (2006) Measuring Service Quality in Higher Education: HEdPERF versus SERVPERF. *Marketing Intelligence and Planning*, 24(1), pp 31 – 47.

Ackoff, R.L. (1974) *Redesigning the future*. New York: Wiley.

Ackoff, R.L. (1979) The future of operational research is past. *Journal of the Operational Research Society*, 30(2), pp 93 – 104.

Aczel, J. and Saaty, T.L. (1983) Procedures for synthesising ratio judgements. *Journal of Mathematical Psychology*, 27, pp 93 – 102.

Adelman, C. (1996) Anything Goes: Evaluation and Relativism. *Evaluation*, 2(3), pp 291 – 305.

Agbor, J.M. (2011) *The Relationship between customer satisfaction and service quality: A study of three service sectors in Umeå*. Unpublished Master's Thesis, Umeå School of Business, Sweden.

Ahn, T., Arnold, V., Charnes, A. and Cooper, W.W. (1989) DEA and ratio efficiency analyses for public institutions of higher learning in Texas. *Research in Governmental and Non-profit Accounting*, 5, pp 165 – 185.

Ahn, T., Charnes, A. and Cooper, W.W. (1988) Some statistical and DEA evaluations of relative efficiencies of public and private institutions of higher learning. *Socio-Economic Planning Sciences*, 22(6) pp 259 – 269.

Alkin, M. and Christie, C. (2004) An evaluation theory tree. In Alkin, M. (Ed.), *Evaluation roots: Tracing theorists' views and influences* (pp 381 – 392). Thousand Oaks, CA: Sage.

Alter, S. (2008a) Defining Information Systems as Work Systems: Implications for the IS Field. *European Journal of Information Systems*, 17(5), pp 448 – 469.

Alter, S. (2008b) Service System Fundamentals: Work System, Value Chain, and Life Cycle, *IBM Systems Journal*, 47(1) pp 71 – 85.

Alter, S. (2008c) “Service System Innovation” IFIP (International Federation of Information) Working Group 8.2 *Conference on IT and Change in the Service Economy*, Toronto, Canada, August 2008.

Alter, S. (2007a) Could the Work system Method Embrace Systems Concepts More Fully? *Information Resource Management Journal*, 20(2), pp 33 – 43.

Alter, S. (2007b) Service Responsibility Tables: A New Tool for Analyzing and Designing Systems. AMCIS 2007, *Americas Conference of Information Systems*, Keystone. Aug. 9 – 12, 2007.

Alter, S. (2006a) Service systems fundamentals: work system, value chain, and life cycle. *IBM Systems Journal*, 47(1), pp 71 – 85.

Alter, S. (2006b) *The Work System Method: Connecting People, Processes, and IT for Business Results*. Larkspur, CA: Work System Press.

Alter, S. (2002) The work system method for understanding information systems and information systems research. *Communications of the AIS*, 9(6), pp 90 – 104.

Anderson, E.W., Fornell, C. and Lehmann, D.R. (1994) Customer Satisfaction, Market Share, and Profitability: Findings from Sweden. *Journal of Marketing*, 58, pp 53 – 66.

Anderson, J.C. and Gerbing, D.W. (1991) Predicting the performance of measures in a confirmatory factor analysis with a pretest assessment of their substantive validities. *Journal of Applied Psychology*, 76(5), pp 732 – 740.

Anderson, V. and Johnson, L. (1997) *System Thinking Basics: from concepts to Causal Loops*. Waltham: Pegasus Communication INC.

Anderson, J.C., Narus, J.A. and van Rossum, W. (2006) Customer Value propositions in Business Markets. *Harvard Business Review*, March 2006, pp 1 – 9.

Arcelus, F.J. and Coleman, D.R. (1997) An Efficiency Review of University Departments. *International Journal of Systems Science*, 28(7), pp 721 – 729.

Archrol, R. and Kotler, P. (1999) Marketing in the Network Economy. *Journal of Marketing*, 63, pp 146 – 163.

Archrol, R. and Kotler, P. (2006) The service-dominant logic: A critique. In publication; Lush, R.F., and Vargo, S.L (Eds.), *The service-dominant logic for marketing: Dialog, debate and directions*. M.E. Sharpe. New York, pp 287 – 295.

Arpan, L.M., Raney, A.A. and Zivnuska, S. (2003) A cognitive approach to understanding university image. *Corporate Communications*, 8(2), pp 97 – 113.

Ashby, W.R. (1956). *An Introduction to Cybernetics*. London: Methuen.

Asubonteng, P., McCleary, K. and Swan, J. (1996) SERVQUAL Revisited: A Critical Review of Service Quality. *The Journal of Services Marketing*, 10(6), pp 62 – 81.

Attwater, R. (1999) Pragmatist Philosophy and Soft Systems in an Upland Thai Catchment. *Systems Research and Behavioural Science*, 16(4), pp 299 – 309.

Avkiran, N.K. (2001) Investigating technical and scale efficiencies of Australian Universities through Data Envelopment Analysis. *Socio-Economic Planning Sciences*, 35(1), pp 57 – 80.

Babakus, E. and Boller, G.W. (1992) An Empirical Assessment of the SERVQUAL Scale. *Journal of Business Research*, 24 (May, 1992), pp 253 – 268.

Badat, S. (2009) The Role of Higher Education in Society: Valuing Higher Education. Paper presented at *HERS-SA Academy 2009*. University of Cape Town, Graduate School of Business, Cape Town, 14 September 2009.

Baijnath, N. and Singh, P. (2001) *Quality assurance in open and distance learning*. In: Baijnath, N., Maimela, S., and Singh, P. (Eds), *Quality Assurance in open and distance learning*. Roodepoort: University of South African and Technikon South Africa.

Baker, M.J. (2003) *The Marketing Book*. 5th Edition. Oxford: Butterworth-Heinemann.

- Bana E Costa, C.A., Stewart, T.J. and Vansnick, J.C. (1995) Multicriteria decision analysis: some troughs based on the tutorial and discussion sessions of the ESIGMA meetings. Paper presented at the *Euro XIV Conference*, pp 261 – 272, Jerusalem, July 3 – 6.
- Banville, C., Landry, M., Martel, J.M. and Boulaire, C. (1998) A stakeholder Approach to MCDA. *Systems Research and Behavioural Science*, 15(1), pp 15 – 32.
- Barsky, J.D. (1995) *World Class Customer Satisfaction*. Chicago, IL: Irwin.
- Baskerville, R.L. and Wood-Harper, A.T. (1996) A critical perspective on action research as a method for information systems research. *Journal of Information Technology*, 11, pp 235 – 246.
- Beckett, F. (2005) When price is not right. *Times Educational Supplement*, 22 April, pp 3 – 5.
- Beer, S. (1972) *Brain of the Firm*. London and New York: John Wiley.
- Beer, S. (1979) *Heart of the Enterprise*. Chichester: Wiley.
- Beer, S. (1985) *Diagnosing the System for Organisation*. Chichester: Wiley.
- Berry, L.L. and Lampo, S.K. (2000) Teach an old service new tricks: the promise of service redesign. *Journal of Service Research*, 2(3), pp 265 – 276.
- Bhaskar, R. (1994) *A Realist Theory of Science*. Plato Etc. London, UK: Verso.
- Bisschoff, A. (2000) *Client Service Research Model For Learning Systems*. Unpublished MBA dissertation, Potchefstroom University for Christian Higher Education. South Africa.
- Bisschoff, C.A. and Bisschoff, A. (2001) Customer service factors of a Telematic Learning BBA degree. *South African Journal of Education*, 21(4), pp 228 – 233.
- Bitner, M.J., Booms, B.H. and Tetreault, M.S. (1990) The Service Encounters: Diagnosing Favourable Unfavourable Incidents. *Journal of Marketing*, 54, pp 71 – 84.
- Bitner, M.J. (1993) Tracking the evolution of the service marketing literature. *Journal of Retailing*, 69, pp 61 – 103.

- Bolton, R.N. and Drew, J.H. (1991) A longitudinal analysis of the impact of services changes on customer attitudes. *Journal of Marketing*, 55, pp 1 – 9.
- Bolton, R.N. and Drew, J.H. (1991) A multistage model of customers' assessment of service quality and value. *Journal of Consumer Research*, March, pp 375 – 384.
- Boshoff, C. and Du Plessis, F. (2009) *Services marketing: A contemporary approach*. Cape Town: Juta.
- Boulding, W., Kalra, A., Staelin, R. and Zeithaml, V.A. (1993) A dynamic process model of service quality: from expectations to behavioural intentions. *Journal of Marketing Research*, 30, pp 7 – 27.
- Bouwers, M.R. (1997) Improving service quality: achieving high performance in the public and private sectors by Milakovich ME. *Journal of the Academy of Marketing Science*, 25(3), pp 265 – 266.
- Bowen, K. (1998) Some thoughts on Multimethodology. *Systems Practice and Action Research*, 11(2), pp 169 – 177.
- Boyd, A., Geerling, T., Gregory, W.J., Kagan, C., Midgley, G., Murray, P. and Walsh, M.P. (2007) Systemic evaluation: A participative, multi-method approach. *Journal of the Operational Research Society*, 58, pp 1306 – 1320.
- Boyd, N., Walker, E., and Larrache, P. (1998) *Marketing Strategy*. New York: Irwin.
- Bradley, J.E., Mayfield, M.V., Mehta, M.P. and Rukonge, A.E. (2002) Participatory evaluation of reproductive health care quality in developing countries. *Social Science and Medicine*, 55(2), pp 269 – 282.
- Bradshaw, G.S., Espinoza, S. and Hausman, S. (2001) The college decision-making of high achieving students. *College and University*, 77(2), pp 15 – 22.
- Brady, M. and Cronin, J. (2001) Some new thoughts on conceptualizing perceived service quality: A Hierarchical Approach. *Journal of Marketing*, 65(3) pp 34 – 49.

- Brink, J. and Singh, P. (2002) 'Quality assurance in a large distance education institution of higher education: University of South Africa', in Griesel, H., Strydom, A.H. & van der Westhuizen, L.J. (Eds.) *Quality Assurance in a Transforming University System: lesson and challenges*. Bloemfontein: CLF Printing.
- Britton, G.A. and Parker, J. (1993) An explication of the viable system model for project management. *Systems Practice Action Research*, 6(1), pp 21 – 51.
- Brooker, G. and Noble, M. (1985) The marketing of higher education. *College and Universities*, 17(6), pp 105 – 116.
- Brookes, M. and Becket, N. (2006) *Quality management in higher education: a review of international issues and practice*. Available online:
<http://www.bsieducation.org/Education/downloads/ijqs/paper3.pdf> [Accessed: 2012, March 07].
- Brown, T.J., Churchill, G.A. and Peter, J.P. (1993) Research note: improving the measurement of service quality. *Journal of Retailing*, 69(1), pp 126 – 139.
- Bunting, I. (1994) *A legacy of inequality: Higher Education in South Africa*. Cape Town: UCT Press.
- Burns, J. and Musa, P. (2001) Structural Validation of Causal Loop Diagrams. Paper presented at the *System Dynamics Society 19th Annual Conference*, Atlanta, Georgia, 23 – 27 July 2001.
- Buttle, F. (1998) SERVQUAL: Review, Critique, Research Agenda. *European Journal of Marketing*, 30(1), pp 8 – 32.
- Carrillat, F.A., Jaramillo, F. and Mulki, J.P. (2007) The validity of the SERVQUAL and SERVPREF scales: A meta-analytic view of 17 years of research across five continents. *International Journal of Service Industry Management*, 18(5), pp 472 – 490.
- Cavana, R.Y., Lee, M.W., Bennett, J. and Taylor, R.J. (1996) Possum and gorse control on a farm woodlot: A System Dynamics Analysis. *Asia-Pacific Journal Operational Research*, 13(2), pp 181 – 207.

- Cave, M., Hanney, S., Henkel, M. and Kogan, M. (1988) *The Use of Performance Indicators in Higher Education: The challenge of the quality movement*. 3rd Edition. London: Jessica Kingsley.
- Chang, O.H. and Chow, C.W. (1999) The Balanced Scorecard: A potential tool for supporting change and continuous improvement in accounting education. *Issues in Accounting Education*, 14(3), pp 395 – 412.
- Chapman, D. (1981) A Model of Student College Choice. *Journal of Higher Education*, 52, pp 490 – 505.
- Charnes, A., Cooper, W.W. and Rhodes, E. (1978) Measuring the efficiency of decision making units. *European Journal of Operational Research*, 2, pp 429 – 444.
- Checkland, P. (2000). Soft systems methodology: a 30 year retrospective. *Systems Research and Behavioural Science*, 17(S1), S11 – S58.
- Checkland, P. (1991) From Framework through experience to learning: The Essential Nature of Action Research. *Contemporary Approaches and Emergent Traditions*, Amsterdam: North-Holland, 1991, pp 397 – 403.
- Checkland, P. (1989) Researching Systems Methodology: Some future prospects. Systems prospects: The next ten years of system research, Flood, R.L., Jackson, C. and Keys, P. (Eds), New York: Plenum Press, pp 9 – 15.
- Checkland, P. (1985) From optimising to learning: a development of systems thinking for the 1990s. *Journal of Operational Research Society*, 36, pp 757 – 767.
- Checkland, P. (1981) *Systems Thinking, Systems Practice*. Chichester: Wiley.
- Checkland, P.B. and Holwell, S. (1998). *Information, Systems and Information Systems – making sense of the field*. Chichester: Wiley.
- Checkland, P.B. and Poulter, J. (2006) *Learning for action: A short definitive account of soft systems methodology and its use for practitioners, teachers and students*. Chichester: Wiley.

- Checkland, P. and Scholes, J. (1990) *Soft Systems Methodology in Action*. Chichester: John Wiley.
- Checkland, P. and Scholes, J. (1999). *Soft Systems Methodology in Action*. Chichester: Wiley.
- Checkland, P. and Winter, M. (2006) Process and content: Two ways of using SSM. *Journal of Operational Research Society*, 57(12), pp 1435 – 1441.
- Chelimsky, E. (1997) The coming transformations in evaluation. In Chelimsky, E. & Shadish, W.R. (Eds), *Evaluation for the 21st century: A handbook*. Thousand Oaks, CA: Sage.
- Chen, H.T. and Rossi, P.H. (1987) The theory-driven approach to validity. *Evaluation and Program Planning*, 10, pp 95 – 103.
- Chen, H.T. (1989) The theory-driven perspective, in Chen, H.T. (Ed.), *Evaluation and Program Planning*, 12(4), pp 355 – 366.
- Chen, J., Tsou, H.T. and Huang, A.Y. (2009) Service Delivery Innovation. *Journal of Service Research*, 12(1), pp 36 – 55.
- Churchill, G.A. and Surprenant, C. (1982) An investigation into the determinants of customer satisfaction. *Journal of Marketing Research*, 19, pp 491 – 504.
- Churchman, C.W. (1968) *The Systems Approach*. New York: Delta.
- Churchman, C.W. (1971). *The Design of Inquiring Systems*. New York: Basic Books.
- Churchman, C.W. (1979) *The Systems Approach*. New York: Dell.
- Collins English Dictionary (1994) Available online. <http://www.collinsdictionary.com>. [2013, February 08].
- Coetzee, M.D. and Liebenberg, E. (2004) *The influence of corporate reputation on the choice of the University of Pretoria as a preferred higher education institution: A Survey of high school learners in the Pretoria region*. Unpublished Honours dissertation, University of Pretoria. South Africa.

- Cornwall, A. (1996) Towards participatory practice: Participatory rural appraisal (PRA) and the participatory process. In De Koning, K. & Martin, M. (Eds.), *Participatory research in health: Issues and experiences* (pp 94 – 107). Johannesburg: National Progressive Primary Health Care Network.
- Council for Academic Awards (CNAA). (1990) *Performance Indicators and Quality Assurance*, Information Services Discussion Paper 4, June (London, CNAA).
- Council on Higher Education (CHE) (2003) *Proposed Criteria for the HEQC's first cycle of audits: 2004 – 2009* March 2003 Discussion Document.
- Council on Higher Education (CHE) (2000). Towards a new higher education landscape: meeting the equity, quality and social development imperatives of South Africa in the 21st century. Report of the Shape and Size of Higher Education Task Team. Pretoria: Department of Education.
- Coupe, K. (2002) *Closing the Gap* [Online] 6 paragraphs. Available: <http://www.academic.emporia.edu/smithwil/> [2012, June 25].
- Courant, P. (2006) A justification for higher education prices: Keys to explaining tuition increases to the public. *EduExec*, 25(1) pp 1 – 8.
- Cousins, J.B. and Earl, L.M. (1992) The Case for Participatory Evaluation. *Educational Evaluation and Policy Analysis*. Winter 1992, 14(4), pp 397 – 418.
- Coyle, R.G. and Alexander, D.W. (1997) Two Approaches to Qualitative Modelling of a Nation's Drugs Trade. *System Dynamics Review*, 13(3), pp 205 – 222.
- Cronbach, L.J., Ambron, S.R., Dornbusch, S.M., Hess, R.D., Hornik, R.C., Phillips, D.C., Walker, D.F. and Weiner, S.S. (1980) *Towards reform program evaluation*. San Francisco: Jossey-Bass.
- Cronin, J.J. and Taylor, S.A., (1992) Measuring Service Quality: A re-examination and extension. *Journal of Marketing*, 56 (July), pp 55 – 68.
- Crosby, P.B. (1979) *Quality is Free*. New York: McGraw-Hill.

Cubillo, J.M., Sanchez, J. and Cervino, J. (2006) International students' decision-making process. *International Journal of Educational Management*, 20(2), pp 101 – 115.

Cucuzzella, C. (2009) Fourth Generation Evaluation: Expanding the Evaluation Framework for Sustainable Design Projects. Paper presented at the *International Association of Societies of Design Research*. 2009, Seoul, Korea, 18 – 22 Oct, pp 1639 – 1648.

Cullen, J., Joyce, J., Hassall, T. and Broadbent, M. (2003) Quality in higher education: From monitoring to management. *Quality Assurance in Education*, 11, pp 1 – 5.

Dabholkar, P., Thorpe, D.I. and Rentz, J.O. (1996) A measure of service quality for retail stores: scale development and validation. *Journal of the Academy of Marketing Science*, 24(1), pp 3 – 16.

Dahlgaard-Park, S.M. (2008) *Reviewing The European Excellence Model from a Management Control View*. Available Online.

<http://www.iei.liu.se/q/filarkiv/phdcourses/1.119227/EEMsenfromMC.pdf> [2011, July 26].

Davis, M.M. and Heineke, J. (1998) How disconfirmation, perception and actual waiting times impact customer satisfaction. *International Journal of Service Industry Management*, Vol 9, pp 64 – 73.

De Haan, J., Hummels, E. and Claessen, J. (1999) 'Quality assurance and organisational development: an approach based on ideal types' in Fouries, M., Strydom, A.H. and Stetar, J. (Eds.) *Reconsidering Quality Assurance in Higher Education: perspectives on programme assessment and accreditation*. University of the Free State. South Africa.

Dean, A.M. (2004) Links between organisational and customer variables in service delivery – evidence, contradictions and challenges. *International Journal of Service Industry Management*, 15(4), pp 332 – 350.

Deetz, S. (1996) Describing Differences in Approaches to Organisational Science: Rethinking Burrell and Morgan and their Legacy. *Organisational Science*, 7(2), pp 190 – 207.

DeSanctis, G., Poole, M., Limayem, M. and Johnson, W. (1990) The Group Decision Support Systems (GDSS). *Working Paper Series*.

Diamantopoulos, A. and Siguaw, JA. (2000) *Introducing LISRE*. London: Sage.

Dick, B. (1999) *What is Action Research?* Available Online.

<http://www.scu.edu.au/schools/gcm/ar.whatisar.html> [2010, November 9].

Diez, M.A. and Esteban, M.S. (2000) The evaluation of regional innovation and cluster policies: looking for new approaches. Paper presented at *Fourth EES Conference*. Lausanne. October 12 – 14, 2000.

Dion, P.A., Valgi, R. and Dilorenzo-Aiss, J. (1988) An Empirical Assessment of the Zeithaml, Berry and Parasuraman Service Expectations Model. *The Service Industries Journal*, 18(4), pp 66 – 86.

Donaldson, W.G. and McNicholas, C. (2004) Understanding the postgraduate education market for UK based students. *Journal of non-profit and Voluntary Sector Marketing*, 9(4), pp 346 – 360.

Dorweiler, V.P. and Yakhou, M. (1994) Changes in professional degree programs in the USA: an environmental analysis of professional education requirements. *Higher Education Research and Development*, 13(2), pp 231 – 251.

Dotchin, J.A. and Oakland, J.S. (1994) Total Quality Management in Services, Part 1: Understanding and Classifying Services. *International Journal of Quality & Reliability Management*, 11(3), pp 9 – 36.

Du Pré, R. (2009) *The Place and Role of Universities of Technology in South Africa*. Bloemfontein, South Africa: South African Technology Network.

Durban University of Technology (2013a) No Author. *History of Durban University of Technology*. Available Online. <http://www.dut.ac.za> [2013, February 12].

Durban University of Technology (2013b) No Author. *Campuses of Durban University of Technology*. Available Online. <http://www.dut.ac.za> [2013, February 12].

- Durban University of Technology (2013c) No Author. *Pietermaritzburg Campuses of Durban University of Technology*. Available Online. <http://www.dut.ac.za> [2013, February 12].
- Du Toit, A. (2004) How Satisfied are our Students? Proceedings of the 1st International Conference on Teaching and Learning in Higher Education. *Centre for the Development of Teaching and Learning*, National University of Singapore. Singapore, pp 182 – 187.
- Duderstadt, J.J. (2000) *A University in the 21st Century*. University of Michigan, Chicago: Ann Arbor.
- Dyer, J.S. (1990) Remarks on the Analytic Hierarchy Process, *Management Science*, 36(3), pp 249 – 258.
- Dyer, R.F. and Forman, E.H. (1992) Group decision support with the Analytic Hierarchy Process. *Decision Support Systems*, 8, pp 99 – 124.
- Edgett, S. and Parkinson, S. (1993) Marketing for Service Industries – a Review. *The Service Industries Journal*, 13(3), pp 19 – 39.
- Edu, A. (2000) The role of evaluation in accountability in donor-funded projects. *IDS Bulletin*, 31(1), pp 48 – 52.
- Edvardson, B., Tomasson, B. and Ovreteit, J. (1994) *Quality of Service: Making it Really Work*, New York: McGraw-Hill.
- Ekinici, Y. and Riley, M. (1998) A critique of the issues and theoretical assumptions in service quality measurement in the lodging industry: time to move the goal-posts? *Hospitality Management*, 17, pp 349 – 362.
- Ellis, K., Gregory, A., Mears-Young, B.R. and Ragsdell, G. (1995) *Critical issues in Systems Theory and Practice*. New York: Plenum Press.
- Elnicki, D.M. Halperin, A.K. Shockcor, W.T. and Aronoff, S.C. (1999) Multidisciplinary evidence-based journal clubs: curriculum design and participants' reaction. *American Journal of Medical Sciences*, 317, pp 243 – 246.

Eriksson, D.M. (1998) Managing Problems of Postmodernity: Some Heuristics for Evaluation of Systems Approaches. *Interim reports for the International Institute for Applied Analysis*.

Espejo, R., Bowling, D. and Hoverstadt, P. (1999) The Viable System Model and the Viplan software. *Kybernetes*, 28(6/7), pp 661 – 678.

Espejo, R. and Harnden, R. (1996) *The Viable System Model. Interpretations and Applications of Stafford Beer's VSM*. Chichester: John Wiley and Sons Ltd.

Estrella, M. (2000) Learning from change. In Estrella, M. et al. (Eds.), *Learning from change: issues and experiences in participatory monitoring and evaluation*. pp 1 – 14. London: Intermediate Technology Publications Ltd.

Estrella, M. and Gaventa, J. (1998) *Who counts reality? Participatory monitoring and evaluation: A literature review*. IDS Working Paper 70.

Eurydice (2007) *Focus on the structure of higher education in Europe 2006/07. National trends in the Bologna process*. European Commission, Directorate-General for Education and Culture.

Ferlie, E., Musselin, C. and Andresani, G. (2008) The steering of higher education systems: a public management perspective. *Higher Education*, 56, pp 325 – 348.

Ferreira, M. (2003) *A framework for continuous improvement in the South African Higher Education Sector*. Unpublished doctoral thesis. University of Pretoria. South Africa.

Fetterman, D. and Wandersman, A. (2007) Empowerment Evaluation Yesterday, Today and Tomorrow. *American Journal of Evaluation*, 28(2), pp 179 - 198.

Fetterman, D.M. (1996) Empowerment Evaluation: An Introduction to Theory and Practice. In Fetterman, D.M., Kaftarian, S.J. and Wandersman, A. (Eds), *Empowerment Evaluation: Knowledge and Tools for Self-Assessment & Accountability*. pp 3 – 27. Thousand Oaks, CA: Sage.

Finne, H., Levin, M. and Nilssen, T. (1995) Trailing Research. A model for useful program evaluation. *Evaluation*, 1, pp 11 – 31.

- Finocchietti, C. and Capucci, S. (2004) Italy: Accreditation in progress. Autonomy, minimum standards, quality assurance, in Schwarz, S. and Westerheijden, D.F. (Eds.) *Accreditation and evaluation in the European higher education area*. Netherlands: Kluwer.
- Finsterwalder, J. and Tuzovic, S. (2010) Quality in group service encounters. A theoretical exploration of the concept of a simultaneous multi-customer co-creation process. *Managing Service Quality*, 20(2), pp 109 – 122.
- Firdaus, A. (2005) HEdPERF versus SERVPERF The quest for ideal measuring instrument of service quality in higher education sector. *Quality Assurance in Education*, 13(4), pp 305 - 328.
- Fitzsimmons, J.A. and Fitzsimmons, M.J. (2010) *Service Management*. 7th Edition. New York: McGraw-Hill.
- FlieB, S. and Kleinaltenkamp, M. (2004) Blueprinting the Service Company: Managing Service Processes Efficiently. *Journal of Business Research*, 57, pp 392 – 404.
- Flood, R.L. (2010) The Relationship of “Systems Thinking” to Action Research. *Systemic Practice and Action Research*, 23(4), pp 269 – 284.
- Flood, R.L. (1996) *Solving Problem Solving. A potent force for effective management*. Chichester: John Wiley and Sons Ltd.
- Flood, R.L. (1995) An improved version of the process of Total Systems Intervention (TSI). *Systems Practice*, 8(3), pp 329 – 333.
- Flood, R.L. (1990) *Liberating Systems Theory*. New York: Plenum Press.
- Flood, R.L. and Jackson, M.C. (1999) *Creative Problem Solving. Total Systems Intervention*. Chichester: John Wiley and Sons Ltd.
- Flood, R.L. and Jackson, M.C. (1991) *Critical Systems Thinking: Directed Readings*. New York: Wiley.

Flood, R.L. and Romm, N. (1995) *Critical Systems Thinking: Current Research and Practice*. London: Plenum.

Fojt, M. (1996) Editorial. *The International Journal of Bank Marketing*, 14(5), pp 2.

Ford, J.B., Joseph, M. and Joseph, B. (1999) Importance-performance analysis as a strategic tool for service marketers: The case of service quality perceptions of business students in New Zealand and the USA. *The Journal of Services Marketing*, 13(2), pp 171 – 186.

Ford, R.C. and Bach, S.A. (1997) Measuring hotel service quality: Tools for gaining the competitive edge. *Florida International University Hospitality Review*, 15(1), pp 83 – 95.

Forrester, J.W. (1969) *Urban Dynamics*. Waltham, MA: Pegasus Communication.

Forrester, J.W. (1975) *World Dynamics*. 2nd Edition. Waltham, MA: Pegasus Communication.

Fredericks, K.A., Deegan, M. and Carman, J.G. (2008) Using system dynamics as an evaluation tool: An experience from a demonstration program for people with developmental disabilities. *American Journal Evaluation*, 29(3), pp 251 – 267.

Gabbott, M. and Hogg, G. (1998) *Consumers and Services*. Chichester: John Wiley and Sons Ltd.

Gattoufi S., Oral M. and Reisman A. (2002). Data Envelopment Analysis Literature: A Bibliography Update (1951 - 2001). Available online.
http://bilmer.sabanciuniv.edu/elit/gsm/sugsm02_08.pdf. [2010, September 14].

Gentry, WA., Katz, R.B. and McFeeters, B.B. (2009) The continual need for improvement to avoid derailment: A study of college and university administrators. *Higher Education Research & Development*, 28(3), pp 335 – 348.

Gibbons, M. (1998) *Higher Education Relevance in the 21st Century*. Association of Commonwealth Universities. World Bank.

Goetsch, L.D. and Davis, B.S. (2006) *Quality Management: Introduction to Total Quality Management for Production, Processing, and Services*. 5th Edition. New Jersey: Pearson Education Inc.

Goldie, J. (2006) AMEE Education Guide no. 29: Evaluating educational programmes. *Medical Teacher*, 28(3), pp 210 – 224.

Green, D. (1994) What is quality in higher education? Concepts, policy and practices, in Green, D. (Ed) *What is Quality in Higher Education?* Buckingham: SRHE & Open University Press.

Green, P.E. (2006) *An investigation into the quality of service delivery at the Durban Institute of Technology, Pietermaritzburg Campuses*. Unpublished MBA dissertation, University of Kwa-Zulu Natal, South Africa.

Greene, J. (1996) Qualitative Evaluation and Scientific Citizenship: Reflections and Refractions. *Evaluations*, 2(3), pp 277 – 289.

Gregory, A.J. (2009a) Strategic Development in Higher Education: A Critical Systems Perspective. *Systems Research and Behavioural Science. Systems Research*, 25, pp 605 – 614.

Gregory, A.J. (2009b) Scoping a systems-based method for organisational evaluation. *Proceedings from the 53rd Annual Meeting of the International Society for Systems Science (ISSS) 2009*, 12 – 17 July, Brisbane, Australia, pp 1 – 17.

Gregory, A.J. (1996) The road to integration. Reflections on the development of organisational evaluation theory and practice. *Omega* 24(3), pp 295 - 307.

Gregory, A.J. (1994) *Organisational Evaluation: A Complementarist Approach*, Unpublished Ph.D thesis, University of Hull, Hull, UK.

Gregory, A.J. and Jackson, M.C. (1992) Evaluating organisations: A systems and contingency approach. *Systems Practice*, 5, pp 37 – 60.

Griesel, H., Strydom, A.H. and Van Der Westhuizen, L.J. (2002) *Quality Assurance in a Transforming University System: lessons and challenges*. Bloemfontein: CLF Printing.

Grönroos, C. (2008) Service logic revisited: who creates value? And who co-creates? *European Business Review*, 20(4), pp 298 – 314.

Grönroos, C. (1995) Relationship Marketing: the Strategy Continuum. *Journal of the Academy of Marketing Science*, 23(4), pp 252 – 254.

Guadagnolo, F. (1985) The importance-performance analysis: an evaluation and marketing tool. *Journal of Park and Recreation Administration*, 2, pp 13 – 22.

Guba, E.G. and Lincoln, Y.S. (1989) *Fourth Generation Evaluation*. Newbury Park, CA: SAGE Publications.

Habermas, J. (1987) *The Theory of Communicative Action Vol. 2: Lifeworld and System: A Critique of Functionalist Reason*. Oxford: Heinemann.

Habermas, J. (1984) *The Theory of Communicative Action Vol. 1: Reason and Rationalisation of Society*. London: Heinemann.

Habermas, J. (1972) *Knowledge and Human Interests*. London: Heinemann.

Habib, A. and Parekh, A. (2000) Transforming South Africa's University System: The Case for Strategic Mergers. *Perspectives in Education*, 18(3), pp 39 – 51.

Hall, I. and Hall, D. (2004) *Evaluation and social research*. Hampshire: Palgrave MacMillan.

Hames, R.D. (1994) *The Management Myth*. Sydney, NSW: Professional and Business Publishing.

Harris, B. and Williams, B. (2005) *Systems Dynamics Methodologies*. W.K. Kellogg Foundation. Available online. <http://users.actrix.co.nz> [2013, February 21].

Hartline, M.D. and Ferrell, O.C. (1996) The Management of Customer - Contact Service Employees: An Empirical Investigation. *The Journal of Marketing*, 60(4), pp 52 – 70.

Harvey, L. and Green, D. (1993) Defining Quality. *Assessment and Evaluation in Higher Education*, 18(1), pp 9 – 34.

Haslett, T. and Sankaran, S. (2009) Applying Multi-Methodological Systems Theory to Project Management. *Proceedings of the 53rd Annual Meeting of the International Society for the Systems Sciences*. University of Queensland, Brisbane, Australia, July, 12 – 17.

Hattie, J. (1985) Methodology review: assessing unidimensionality of tests and items. *Applied Psychological Measurement*, 9, pp 139 – 164.

Hawkins, D.I., Best, R.J. and Conney, K.A. (1998) *Consumer Behaviour Building Marketing Strategy*. Boston, MA: McGraw Hill.

Hay, H.R. and Fourie, M. (2002) Preparing the way for mergers in South African higher and further education institutions: An investigation into staff perceptions. *Higher Education*, 44(1), pp 115 – 131.

Higher Education Funding Council for England (HEFCE). (2003) *Benchmarking Methods and Experiences*. Sheffield Hallam University.

Hill, F.M. (1995) Managing service quality in higher education: The role of the student as primary consumer. *Quality Assurance in Education*, 3(3), pp 10 – 21.

Homer, J.B. and Oliva, R. (2001) Maps and Models in System Dynamics: A Response to Coyle. *System Dynamics Review*, 17(4), pp 347 – 355.

Honebein, P.C. (2006) Customers at work. *Marketing Management*, 15(1), pp 26 – 31.

Hope, C. and Muhlemann, A. (1997) *Service Operations Management*. Englewood Cliffs, NJ: Prentice-Hall.

Horlick-Jones, T. and Sime, J. (2004) Living on the border: knowledge, risk and transdisciplinarity. *Futures*, 36, pp 441 – 456.

Hostmark-Tarrou, A. (1999) The Evaluation of Structures in European Universities. *European Journal of Education*, 34(3), pp 267 – 281.

House, E.R. (1976) Justice in evaluation, in: Glass, G.V. (Ed.) *Evaluation Studies Review Annual*. Beverly Hills, CA: Sage.

House, E.R. (1983) Assumptions underlying evaluation models, in Madaus, G.F. Scriven, M. & Stufflebeam, D.L. (Eds) *Evaluation Models: Viewpoints on Educational and Human Services Evaluation*. Boston: Kluwer-Nijhoff.

Hoverstadt, P. (2009) *The fractal organisation: creating sustainable organisations with the Viable System Model*. Chichester: Wiley.

Hoyer, W. and MacInnis, D. (2008) *Consumer Behaviour*. 5th Edition. Mason: South Western Cengage Learning.

Huebner, A.J., and Betts, S.C. (1999) Examining Fourth Generation. *Evaluation Sage Publications*, 5(3), pp 340 – 358.

Iacobucci, D., Ostrom, A. and Grayson, K. (1995) Distinguishing Service Quality and Customer Satisfaction. *Journal of Consumer Psychology*, 4(3), pp 277 – 303.

IRCA Global. (2004) *The South African Excellence Model*. Available online. http://www.irca.co.za/consulting_saem.asp [2012, February 05].

Ivy, J. (2008) A new higher education marketing mix: the 7Ps for MBA marketing. *International Journal of Educational Management*, 22(4), pp 288 – 299.

Jackson, M.C. (2008) *Systems Thinking. Creative Holism for Managers*. Chichester: John Wiley and Sons Ltd.

Jackson, M.C. (2003) *Systems Thinking: Creative Holism for Managers*. Chichester: John Wiley and Sons.

Jackson, M.C. (2001) Critical Systems thinking and Practice. *European Journal of Operational Research*, 128, pp 233 – 244.

Jackson, M.C. (2000) *Systems Methodology for the Management Sciences*. New York: Plenum Press.

Jackson, M.C. (1997) *Towards Coherent Pluralism in Management Science*. Lincoln School of Management Working Paper 16, University of Lincolnshire & Humberside, Lincoln, UK.

- Jackson, M.C. (1995) Beyond the Fads: Systems Thinking for Managers. *Systems Research*. 12(1), pp 25 – 43.
- Jackson, M.C. (1993) *Systems Methodology for the Management Sciences*. New York: Plenum Press.
- Jackson, M.C. (1992) An Integrated programme for Critical Thinking in Information Systems Research. *Journal of Information Systems*, 2, pp 83 – 95.
- Jackson, M.C. (1991) Modernism, Post-Modernism and Contemporary Systems Thinking. In Flood, R.L., and Jackson, M.C. (Eds.), *Critical Systems Thinking: Directed Readings*. New York: Wiley.
- Jackson, M.C. and Keys, P. (1984) Towards a System of System Methodologies. In Flood, R.L., and Jackson, M.C. (Eds.). *Critical Systems Thinking: Directed Readings*. New York: Wiley.
- Jansen, J.D. (2002) *Mergers in Higher Education*. Pretoria: University of South Africa.
- Jayaratna, N. (1994) *Understanding and Evaluating Methodologies*. London: McGraw Hill.
- Jenkins, A.L. (1991) *Using Data Envelope Analysis to Evaluate the Relative Efficiency of Academic Departments*. Kingston: Royal Military College.
- Jobber, D. (1995) *Principles and Practice of Marketing*. Berkshire: McGraw Hill.
- Johnes, J. (2006) Data Envelopment Analysis and its application to the measurement of efficiency in higher education. *Economics of Education Review*, 25, pp 273 – 288.
- Johnes, J. and Johnes, J. (1995) Research funding and performance in U.K. university departments of economics: A frontier Analysis. *Economics of Education Review*, 14, pp 301 – 314.
- Johnes, J. and Taylor, J. (1990) *Performance Indicators in Higher Education*. Buckingham: SRHE & Open University Press.
- Jones, M. (2002) *The effectiveness of marketing communication strategies employed by universities and technikons in the Cape Peninsula with specific reference to career exhibitions*

and open days in attracting first year students. Unpublished Masters dissertation, University of Cape Town, South Africa.

Jordaan, Y. and Prinsloo, M. (2004) *Grasping services marketing*. 2nd Edition. Pretoria: New Africa Publishers.

Joseph, J. and Joseph, B. (1997) Service quality in education: A student perspective. *Quality Assurance in Education*, 5, pp 26 – 37.

Joseph, M., Yakhou, M. and Stone, G. (2005) An educational institution's quest for service quality: Customers' perspective. *Quality Assurance in Education*, 13(1), pp 66 – 82.

Kandampully, J., Mok, C. and Sparks, B. (2004) *Service quality management in hospitality, tourism and leisure*. New York: Haworth Hospitality Press.

Kang, G., James, J. and Alexandris, K. (2002) Measurement of Internal Service Quality: Application of the SERVQUAL Battery of Internal Service Quality. *Managing Service Quality*, 12(5), pp 278 – 291.

Kanning, U.P. and Bergmann, N. (2009) Predictors of customer satisfaction: testing the classical paradigms. *Managing Service Quality*, 9(4), pp 377 – 390.

Kaplan, R. and Norton, D. (2001) *The strategy focused organization*. Pennsylvania: Harvard Business Press.

Kaplan, R. and Norton, D. (1996) *The Balanced Scorecard*. Pennsylvania: Harvard Business Press.

Kaplan, R. and Norton, D. (1992) The Balanced Scorecard: measures that drive performance. *Harvard Business Review*, 70(1), pp 71 – 79.

Karathanos, D. and Karathanos, P. (2005) Applying the Balanced Scorecard to Education. *Journal of Education for Business*, 80(4), pp 222 – 230.

Kawalek, P. and Wastell, D.G. (1999) A Case Study Evaluation of the Use of the Viable System Model in Information Systems Development. *Journal of Database Management*, 10(4), pp 24 – 32.

- Kay, J.J. and Foster, J. (1999) About teaching systems thinking. In Savage, G., and Roe, P. (Eds.) *Proceedings of the HKK Conference*, 14 – 16 June, University of Waterloo, Ontario. pp 165 – 172.
- Keefe, T. (1992) The quality is strained. *Times Higher Education Supplement*, 11 December.
- Keeney, R. (1992). On the Foundations of Prescriptive Decision Analysis, in Edwards, W. (Ed.). *Utility Theories: Measurements and Applications*, Boston: Kluwer, pp 57 – 72.
- Kelly, S.W., Donnelly, J.H. and Skinner, S.J. (1990) Customer participation in service production and delivery. *Journal of Retailing*, 66 (3), pp 314 – 335.
- Kettunen, J. (2008) A conceptual framework to help evaluate the quality of institutional performance. *Quality Assurance in Education*, 16(4), pp 322 – 332.
- Kheng, L.L., Mahamad, O., Ramayah, T. and Mosahab, R. (2010) The impact of Service Quality on Customer Loyalty: A study of Banks in Penang, Malaysia. *International Journal of Marketing Studies*, 2(2), pp 57 – 66.
- Khisty, D. (1995) Soft Systems Methodology as Learning and Management Tool. *Journal of Urban Planning and Development*, 21(3), pp 92.
- Kirk, D. (1995) Hard and Soft Systems: A common paradigm for operations management? *International Journal of Contemporary Hospitality Management*, 7(5), pp 13 – 16.
- Kistan, C. (2002) The development of an institutional policy with particular reference to student evaluation of modules at the University of Durban-Westville, in Griesel, H., Strydom, A.H. & Van Der Westhuizen, L.J. (Eds.) *Quality Assurance in a Transforming University System: lessons and challenges*. Bloemfontein: CLF printing.
- Klose, A. and Finkle, T. (1995) Service Quality and the Congruency of Employee Perceptions and Customer Expectations: The Case of an Electric Utility. *Psychology and Marketing*, 12, pp 637 – 646.

- Koch, T. (2000) Having a say: Negotiation in fourth-generation evaluation. *Journal of Advanced Nursing*, 31(1), pp 117 – 125.
- Konuk, F.A. and Konuk, F. (2012) The Relationship between Service Quality, Economic and Switching Costs in Retail Banking. *Business Systems Review*, 2(1), pp 1 – 16.
- Kothari, S. and Handscombe, R.D. (2007) Sweep or seep? Structure, culture, enterprise and universities. *Management Decision*, 45(1) pp 43 – 61.
- Kotler, P. and Armstrong, G. (2010) *Principles of Marketing*. 13th Edition. Available online. <http://www.getbookee.org/principles-of-marketing-kotler-13th/> [2013, February 13].
- Kotler, P. and Fox, K. (1995) *Strategic marketing for educational institutions*. Englewood Cliffs, New Jersey, USA: Prentice Hall.
- Kotler, P. and Keller, K.L. (2006) *Marketing Management*. 12th Edition. Upper Saddle River, NJ: Prentice Hall.
- Kuhlmann, S. (1998) Moderation of policy making? Science and Technology Policy evaluation beyond impact measurement - The case of Germany. *Evaluation*, 4(2), pp 130 – 148.
- Kuhn, T.S. (1970). *The Structure of Scientific Revolutions*. 2nd Edition. Chicago: University of Chicago Press.
- Kulati, T. and Mosdell, T. (1996) Management information and performance indicators in quality assurance: Insights, from the EPU investigation' in Strydom, A.H., Lategan, L.O.K. & Muller, A (Eds.) *Quality Assurance in South African Higher Education: national and international perspectives*. Bloemfontein: University of the Free State.
- Kurtz, D.L. and Clow, K.E. (1998) *Services Marketing*. Chichester: John Wiley and Sons.
- Ladhari, R. (2008) Alternative measure of Service Quality: A Review. *Journal of Managing Service Quality*, 18(1), pp 65 – 86.
- Lai, Y.J. and Hwang, C.L. (1994) *Fuzzy Multi Objective Decision Making: Methods and Application*. Berlin: Springer – Verlag.

Lam, S.S.K. and Woo, K.S. (1997) Measuring Service Quality: A Test - Retest Reliability Investigation of SERVQUAL. *Journal of the Market Research Society*, 39, pp 381 – 396.

Landry, M. and Banville, C. (1992) A Disciplined Methodological Pluralism for MIS Research. *Accounting, Management and Information Technology*, 2(2), pp 77 – 97.

Lane, D.C. (2000) You don't understand me: Modes of failure and success in the discourse between system dynamics and discrete event simulation. *Operational Research Working Papers, LSEOR Working paper 00.34*. Department of Operational Research, London School of Economics and Political Science, London. UK.

Lane, D.C. and Olivia, R. (1998) The greater whole: towards a synthesis of system dynamics and soft systems methodology. *European Journal of Operational Research*, 107(1), pp 214 – 235.

Laughlin, R. and Broadbent, J. (1996) Redesigning fourth generation evaluation: an evaluation model for the public sector reforms in the UK? *Evaluation*, 2, pp 431 – 451.

Laws, E. (2004) *Improving Tourism and Hospitality Services*. Wallingford, UK: CAB International.

Lazarsfeld, P.F. and Rosenberg, M. (1955) *The Language of Social Research*. Glencoe, IL: Free Press.

Lee, S.M., Ribeiro, D., Olson, D.L. and Roig, S. (2007) The importance of the activities of service business in the economy: welcome to the Service Business. *Service Business*, 1(1), pp 1 – 5.

Lehmann, D.R. (2006) More Dominant Logics for Marketing: Productivity and Growth. In Lusch, R.F. & Vargo, S.L. (Eds). *The service dominant logic of marketing: Dialog, debate and directions* (pp 296 – 301) Armonk, NY: ME Sharpe.

Lehtinen, J.R. and Lehtinen, O. (1982) *Service Quality: A study of quality dimensions*. Unpublished working paper. Service Management Institute, Helsinki.

- Leviton, L.C. and Hughes, E.F. (1981) Research on the utilization of evaluations: A review and synthesis. *Evaluation Review*, 5, pp 497 – 519.
- Lewin, K. (1948) *Resolving Social Conflicts: Selected Papers on Group Dynamics*. New York: Harper Brothers.
- Lewis, R.C. (1987) The measurement of gaps in the quality of hotels services. *International Journal of Hospitality Management*, 6, pp 38 – 88.
- Lewis, B.R. and Mitchell, V.W. (1990) Defining and Measuring the Quality of Customer Service. *Marketing Intelligence & Planning*, 8(6), pp 11 – 17.
- Li, Y.N., Tan, K.C. and Xie, M. (2003) Managing Service Quality: Applying Utility Theory in the Prioritisation of Service Attributes. *International Journal of Quality and Reliability Management*, 20(4), pp 417 – 435.
- Lockee, B., Moore, M. and Burton, J. (2002) Measuring Success: Evaluation Strategies for Distance Education. *Educause Quarterly*, No. 1, pp 1 – 7.
- Lootsma, F.A. (1996) Comments on Roy, B. and Vanderpooten, D., The European School of MCDA: Emergence, Basic features and Current Works. *Journal of Multi Criteria Decision Analysis*, 5(1), pp 37 – 38.
- Lovelock, C., Patterson, P.G. and Walker, R.H. (2001) *Services marketing: An Asia-Pacific Perspective*. Sydney: Prentice-Hall.
- Lovelock, C., Patterson, P.G. and Walker, R.H. (1998) *Services marketing*. Sydney: Prentice Hall.
- Lovelock, C. and Wirtz, J. (2007) *Services Marketing: People, Technology, Strategy*. 6th Edition. NJ: Pearson Prentice Hall.
- Lovelock, C. and Wirtz, J. (2004) *Services Marketing: People, Technology, Strategy*. 5th Edition. Upper Saddle River, NJ: Prentice Hall.
- Lovelock, C. and Wright, L. (2002) *Principles of Service Marketing and Management*. 2nd Edition. Upper Saddle River, NJ: Prentice Hall.

- Luckett, K. and Luckett, S. (1999) Developing 'reflective' development practitioners through an action-learning curriculum: problems and challenges in a South African context. *The Journal of Agricultural Education and Extension*, 6(3), pp 171 – 188.
- Lusch, R.F., Vargo, S.L. and Malter, A.J. (2006) Marketing as Service-Exchange: Taking a Leadership role in Global Marketing Management. *Organisational Dynamics*, 35(3), pp 264 – 278.
- Lusch, R.F., Vargo, S.L. and O'Brien, M. (2007) Competing through Service: Insights from Service-Dominant Logic. *Journal of Retailing*, 83 (Special Issue), pp 5 - 18.
- Lyneis, J.M. (1999) System dynamics for business strategy: a phased approach. *System Dynamics Review*, 15(1), pp 37 – 70.
- Maani, K. and Cavana, R.Y. (2007) *Systems Thinking, System Dynamic: Managing Change and Complexity*. 2nd Edition. New Jersey, Pearson: Prentice Hall.
- Maassen, P. (1997) Quality in European Higher Education: recent trends and their historical roots. *European Journal of Education*, 32(2), pp 111 – 127.
- Machado, R. and Cassim, S. (2002) *Marketing for Entrepreneurs* . 2nd Edition. Cape Town: Juta Publishers.
- Maglio, P.P., Vargo, S.L., Caswell, N. and Spohrer, J. (2009) The service system is the basic abstraction of service science. *Information Systems and E-Business Management*, 7(4), pp 395 – 406.
- Maharasoa, M.M.A., Strydom, A.H. and Van Der Westhuizen, L.J. (2002) *The way Forward through Cooperative Programmes: research and development perspectives*. Bloemfontein: University of the Free State.
- Martilla, J. and James, J. (1977) Importance-performance analysis. *Journal of Marketing*, 41(1), pp 77 – 79.

- Mathison, S. (2004) *Encyclopaedia of Evaluation: Evaluation Theory*. Sage Research Methods, pp 1 – 5.
- McAdam, R. and O'Neill, E. (1999) Taking a critical perspective to the European Business Excellence Model using a balanced scorecard approach: a case study in the service sector. *Managing Service Quality*, 9(3), pp 191 – 197.
- McColl-Kennedy, J.R. (2003) *Services marketing a managerial approach*. Brisbane: John Wiley.
- McIntyre-Mills, J. (2004) *Critical Systemic Praxis for Social and Environment Justice: Participatory policy design and governance for a global age*. New York: Kluwer Academic/Plenum Publishers.
- McKinney, V., Yoon, K. and Zahedi, F. (2002) The measurement of web-customer satisfaction: an expectation and disconfirmation approach. *Information Systems Research*, 13, pp 296 – 315.
- McLaughlin, J.B. (1996) *Leadership transitions: The new college president*. San Francisco: Jossey-Bass.
- McNamara, C. (1999) *Thinking about Organisational Systems* [online]. Minneapolis, Minnesota: Authenticity Consulting. Available online. <http://www.managementhelp.org/systems/systems.htm#anchor117156> [2011, April 20].
- Meadows, D.H. (1989) System Dynamics meets the press. *System Dynamics Review*, 5(1), pp 69 – 80.
- Meyer, H.D. (2002) The new managerialism in education management: Corporatization or organizational learning? *Journal of Educational Administration*, 40(6), pp 534 – 551.
- Mfusi, X.H. (2004) The Effects of Higher Education Mergers on The Resultant Curricula of the Combined Institutions. *South African Journal of Higher Education*, 18(1), pp 98 – 110.
- Mhlanga, E. (2008) *Quality Assurance in Higher Education in Southern Africa: The Case of the Universities of the Witwatersrand, Zimbabwe and Botswana*. An unpublished Doctoral thesis, University of the Witwatersrand, Johannesburg, South Africa.

Midgley, G. (2000) *Systemic Intervention: Philosophy, Methodology and Practice*. New York: Kluwer Publishers.

Midgley, G. (1997) Mixing methods: developing systemic intervention. In: Mingers J, Gill A (eds). *Multimethodology: The theory and Practice of Combining Management Science Methodologies*. Chichester: Wiley, pp 249 – 290.

Midgley, G. (1996) What is This Thing Called CST? In Flood, R.L. and Romm, N. (Eds), *Critical Systems Thinking: Current Research and Practice*. London: Plenum.

Miller, R.L. and Campbell, R. (2006) Taking Stock of Empowerment Evaluation: An Empirical Review. *American Journal of Evaluation*, 27(3), pp 296 – 319.

Mingers, J. (2001). Combining IS Research Methods: Towards a Pluralist Methodology. *Information Systems Research*, 12(3), pp 240 – 259.

Mingers, J. (1997) Multi-paradigm Multimethodology, in Mingers, J. and Gill, J., (Eds.), *Multimethodology: The Theory and Practice of Integrating OR and Systems Methodologies*, Chichester: Wiley, pp 1 – 22.

Mingers, J. (1996) Mixing and Matching Problem Structuring Methods – Exploring the Critical Dimension, *IFORS World Conference in Operations Research*, Vancouver, July.

Mingers, J. and Brocklesby, J. (1997). Multimethodology: towards a framework for mixing methodologies. *Omega*, 25(5), pp 489 – 509.

Mingers, J. and Brocklesby, J. (1996). Multimethodology: towards a framework for critical pluralism. *Systemist*, 18, pp 101 - 132.

Mingers, J. and Gill, A. (1997) *Multimethodology. The Theory and Practice of Combining Management Science Methodologies*. England: John Wiley and Sons Ltd.

Mingers, J. and White, L. (2010) A review of the recent contribution of systems thinking to operational research and management science. *European Journal of Operational Research*, 207(3), pp 77 – 97.

- Mintzberg, H. and Rose J. (2003) Strategic management upside down: tracking strategies at McGill University from 1829 to 1980. *Canadian Journal of Administrative Sciences*, 20(4), pp 270 – 290.
- Mittal, B. (1999) The advertising of services: meeting the challenge of Intangibility. *Journal of Service Research*, 2, pp 98 – 116.
- Mobach, M.P. (2000) Soft Wholes in the Management Practice. Paper presented at the 1st International Conference on Systems Thinking in Management. Geelong, Australia, November 8 – 10.
- Moeller, S. (2008) Characteristics of services – a new approach uncovers their value. *Journal of Services Marketing*, 24/5, pp 359 – 368.
- Morgan, G. (1986) *Images of Organisations*. London: Sage.
- Morse, J.M. (1994) *Critical Issues in Qualitative Research Methods*. Thousand Oaks, CA: Sage.
- Moscatti, R. (2001) A guild in transition: The Italian case, in Enders, J. (Ed.) *Academic staff in Europe: Changing contexts and conditions*. London: Greenwood Press.
- Moscatti, R. (2006) Italy, in Forest, J.J.F. and Altbach, P.G. (Eds.) *International Handbook of Higher Education*. Netherlands: Springer.
- Mtshali, S.M. (2000). Monitoring and evaluation of women's rural development extension services in South Africa. *Development Southern Africa*, 17(1), pp 65 – 73.
- Mudie, E. and Angela, C. (1999) *The Management and Marketing of Services*. 2nd Edition. UK: Butterworth Heinemann Reed Educational and Professional Publishing Ltd.
- Mudie, P. and Pirrie, A. (2006) *Services Marketing Management*. 3rd Edition. Oxford: Elsevier.
- Munro, I. and Mingers, J. (2002) The use of multimethodology in practice – Results of a survey of practitioners. *Journal of Operational Research Society*, 59(4), pp 369 – 378.

- Neave, G. (1998) The Evaluative State Revisited. *European Journal of Education*, 33(3), pp 265 – 284.
- Nepal, T. (2002) *A Systemic Framework for the Evaluation of Rural Telecommunications Infrastructure*. Unpublished Doctoral thesis, ML Sultan Technikon. South Africa.
- Newton, J. (1999) Implementing quality assurance policy in a UK higher education college: exploring the tension between the views of managers and managed', in Fourie, M., Strydom, A.H. & Stetar, J. (Eds.) *Reconsidering Quality Assurance in Higher Education: perspectives on programme assessment and accreditation*. Bloemfontein: University of the Free State.
- Nicolescu, L. (2009) Applying marketing to higher education: Scope and Limits. *Management & Marketing*, 4(2), pp 35 – 44.
- NIST (2004) *Education Criteria for Performance Excellence*. Gaithersburg: National Institute of Standards and Technology.
- NIST (1999) *Malcolm Baldrige national Quality Award 1998 Criteria for Performance Excellence*. Gaithersburg: National Institute of Standards and Technology.
- Noble, P. (1999) Towards an inclusive evaluation methodology. *Corporate Communications: An International Journal*, 4(1), pp 14 – 23.
- O'Neill, M.A. and Palmer, A. (2004) Importance-performance analysis: A useful tool for directing continuous improvement in higher education. *Quality Assurance Education*, 12(1), pp 39 – 52.
- Oh, H. and Parks, S.C. (1998) Evaluating the role of attribute importance as a multiplicative weighting variable in the study of hospitality consumer decision making. *Hospitality Research Journal*, 20(3), pp 35 – 64.
- Oliver, R.L. (1980) A cognitive model for the antecedents and consequences of satisfaction. *Journal of Marketing Research*, 17, pp 460 – 469.
- Oliver, R.L. (1997) *Satisfaction: A Behavioural Perspective on the Consumer*. New York: McGraw-Hill.

Oliva, R. and Bean, M. (2008) Developing operational understanding of service quality through a simulation environment. *International Journal of Service Industry Management*, 19(2), pp 160 – 175.

Ortinou, D.J., Bush, A. J., Bush, R.P. and Tweeble, J.L. (1989) The use of importance-performance analysis for improving the quality of marketing education: interpreting faculty-course evaluations. *Journal of Marketing Education*, Summer, pp 78 – 86.

Palmer, A. (2001) *Principles of Service Marketing*. 3rd Edition. UK: McGraw-Hill.

Palmer, A. and Cole, C. (1995) *Services Marketing: Principles and Practice*. Englewood, Cliffs, New Jersey: Prentice-Hall.

Pandey, I.M. (2005) Balanced scorecard: myth and reality. *Vikalpa*, 30(1), pp 51 – 66.

Parasuraman, A. (2004) Assessing and Improving Service Performance for Maximum Impact: Insights from a Two-Decade-Long Research Journey. *Performance Measurements and Metrics*, 5(2), pp 45 – 52.

Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1994) Alternative scales for measuring service quality: A comparative assessment based on psychometric and diagnostic criteria. *Journal of Retailing*, 70(3), pp 201 – 230.

Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1988) SERVQUAL: A Multi-Item Scale for Measuring Customer Perceptions of Service Quality. *Journal of Retailing*, Spring, 64, pp 12 – 40.

Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1985) A Conceptual Model Service Quality and its Implications for Future Research. *Journal of Marketing*, 49(4), pp 41 – 50.

Parasuraman, A., Zeithaml, V.A., and Malhotra, A. (2005) E-S-QUAL: a multiple-item scale for assessing electronic service quality. *Journal of Service Research*, 7(3), pp 213 – 233.

Patton, M. (1986) *Utilization-focused Evaluation*. Beverly Hills, CA: Sage.

- Patton, M. (1996) A World larger than Formative and Summative. *American Journal of Evaluation*, 17(2), pp 131- 144.
- Payne, A., Storbacka, K. and Frow, P. (2007) Managing the co-creation of value. *Journal of the Academy of Marketing*, 36(1), pp 83 – 96.
- Pearce, R.A. (1995) *Maintaining the Quality of University Education*. Buckingham, University of Buckingham.
- Petkov, D., Petkova, O., Andrew, T. and Nepal, T. (2007) Mixing Multiple Criteria Decision Making with soft systems thinking techniques for decision support in complex situations. *Decision Support Systems*, 43(4), pp 1615 – 1629.
- Petkova, O. (1999) *A framework for evaluation of factors affecting software development productivity*. Unpublished Doctoral thesis, University of Pretoria. South Africa.
- Petkova, O. and Petkov, D (2012) The Work System Method and Soft Systems Methodology – Some Comparisons. *Proceedings from UK Academy for Information Systems Conference 201*. Paper 40.
- Petruzzellis, L. and Romanazzi, S. (2010) Educational value: how students choose university – Evidence from an Italian university. *International Journal of Education*, 24(2), pp 139 - 158.
- Potluri, R.M. and Zeleke, A.A. (2009) Evaluation of customer handling competencies of Ethiopian employees. *African Journal of Business Management*, 3(4), pp 131 – 135.
- Prahalad, C.K., and Ramaswamy, V. (2004) *The Future of Competition: Co-Creating Unique Value with customers*. Boston: Harvard Business School Press.
- Pupius, M. and Steed, C. (2002) Excellence in Higher Education Programme overview and report on progress, GMP 143. Feedback Report.
- Rapert, M. and Wren, B. (1998) Service quality as a competitive opportunity. *Journal of Services Marketing*, 12(3), pp 223 – 235.

Rebien, C. (1996) Participatory evaluation of development assistance. *Evaluation*, 2, pp 151 – 171.

Reddy, J. (1998) *Regional consortia, partnerships, mergers and their implications for the transformation of the South African higher education system*. Unpublished Report.

Reichheld, F.F. and Sasser, W.E. (1990) Zero defections: quality comes to service. *Harvard Business Review*, September – October, pp 105 – 111.

Reisman, A. and Oral, M. (2003) *Soft Systems Methodology: A context within a 50-year retrospective of OR/MS*.

Reynolds, M. (2012) Equity-focused development evaluation using critical systems thinking. *Proceedings from the 10th European Evaluation Society Biennial Conference: Evaluation in the networked society: new concepts, new challenges, new solutions*. 3 - 5 October 2012, Helsinki.

Reynolds, M. (2011) Critical thinking and systems thinking: towards a critical literacy for systems thinking in practice. In: Horvath, C.P. and Forte, J.M. (Eds.) *Critical Thinking*. New York, USA: Nova Science Publishers, pp. 37 – 68.

Reynolds, M. (2008) Getting a grip: a critical systems framework for corporate responsibility. *Systems Research and Behavioural Sciences*, 25(3), pp 383 – 395.

Reynolds, M. and Holwell, S. (2010) Introducing systems approaches. In: Reynolds, M. and Holwell, S. (Eds.) *Systems Approaches to Managing change: A practical guide*. London: Springer, pp 1 – 23.

Richard, M.D. and Allaway, A.W. (1993) Service quality attributes and choice behaviour. *Journal of Service Marketing*, 7(1), pp 59 – 68.

Richardson, G.P. (1991) *Feedback thought in social science and systems theory*. Philadelphia: University of Pennsylvania Press.

Robey, D. (1996) Research Commentary: Diversity in Information Systems Research: Threat, Promise and Responsibility. *Information Systems Research*, 7(4), pp 400 – 408.

Robinson, S. (1999) Measuring Service Quality: Current Thinking and Future Requirements. *Marketing Intelligence and Planning*, 17(1), pp 21-32.

Robinson, A. and Long, G. (1987) Marketing further education: Products or people? *Journal of Higher Education*, March, pp 39 – 46.

Rosenhead, J. (1989) *Rational Analysis in a Problematic*. Chichester: Wiley.

Rosenhead, J. and Mingers, J. (2001) *Rational Analysis for a Problematic World Revisited. Problem Structuring Methods for Complexity, Uncertainty and Conflict*. Chichester: John Wiley and Sons Ltd.

Rossi, P.H., Lipsey, M.W. and Freeman, H.E. (2004) *Evaluation A Systematic Approach*. 7th Edition. United Kingdom: Sage Publishers.

Rovai, A.P. (2003) A practical framework for evaluating online distance education programs. *The Internet and Higher Education*, 6 (2003), pp 109 – 124.

Rowley, J. (1998) Beyond Service Quality Dimensions In Higher Education and Towards A Service Contract. *Quality Assurance in Education*, 5(1), pp 7 – 14.

RSA DoE (Republic of South Africa. Department of Education). (2001) *National Plan for Higher Education*. Pretoria: Department of Education.

RSA DoE (Republic of South Africa. Department of Education). (1997) *Education White Paper: A programme for the Transformation of Higher Education. General Notice 1196 of 1997*. Pretoria: Department of Education.

RSA DoE (Republic of South Africa. Department of Education). (2002) *Higher Education Amendment Act*, Government Gazette No. 24187, Regulation No. 1598, December. Pretoria: Government Printer.

Rust, R. (2004) A call for a wider range of service research. *Journal of Service Research*, 6(3), pp 211.

Rust, R. (2006) Does the service-dominant logic need to go further? In Invited commentaries on the service-dominant logic by participants in The Otago Forum. *Marketing Theory*, 6(3), pp 289 – 290.

Rust, R.T. and Zahork, A.J. (1993) Customer satisfaction, customer retention and market share. *Journal of Retailing*, 69(2), pp 193 – 215.

Ryan, C. and Cliff, A. (1997) Do travel agencies measure up to customer expectation? An empirical investigation of travel agencies' service quality as measured by SERVQUAL. *Journal of Travel and Tourism Marketing*, 62, pp 1 – 32.

Saaty, T. (1990) *Multicriteria Decision Making –The Analytic Hierarchy Process*. 2nd Edition. Pittsburgh: RWS Publication.

Saaty, T. (1994) *Fundamentals of Decision Making and Priority Theory with the Analytic Hierarchy Process*. Pittsburgh: RWS Publication.

Sachdev, S.B. and Verma, H.B. (2004) Relative Importance of Service Quality Dimensions: A Multisectoral Study. *Journal of Services Research*, 4(1) (April-September, 2004), pp 93 – 116.

Salo, A. and Hamalainen, R.P. (1997) On the measurement of preference in the Analytic Hierarchy Process. *Journal of Multicriteria Decision Analysis*, 6, pp 309 – 319.

Sampson, S.E. and Froehle, C.M. (2006) Foundations and Implications of a Proposed Unified Services Theory. *Production and Operations Management*, 15(2), pp 329 – 343.

Sarafoglou, N. and Haynes, K.E. (1996) University Productivity in Sweden: A Demonstration and Explanatory Analysis of Economics and Business Programs. *Annals of Regional Science*, 30, pp 285 – 304.

Sasaki, H. (2007) The rise of service employment and its impact on aggregate productivity growth. *Structural Change and Economic Dynamics*, 18(4), pp 438 – 459.

Sasser, W.E., Olsen, R.P. and Wyckoff, D.D. (1978) *Management of Service Operation*. Boston, MA: Allyn and Bacon.

- Schmenner, R.W. (1995) *Service operations management*. Englewood Cliffs, NJ: Pearson Prentice Hall.
- Schneider, B. and White, S.S. (2004) *Service Quality: Research Perspectives*. London: Sage.
- Schüller, D. and Rasticová, M. (2011) Marketing Communications Mix of Universities – Communication with students in an increasing competitive university environment. *Journal of Competitiveness*, Issue 3/2011, pp 58 – 71.
- Schwaninger, M. (2004) Methodologies in Conflict: Achieving Synergies Between System Dynamics and Organizational Cybernetics. *Systems Research and Behavioural Science*, 21, pp 411 – 431.
- Schwaninger, M., Rios, J.P., and Ambroz, K. (2004) System Dynamics and Cybernetics: A Necessary Synergy. *Proceedings from International System Dynamics Conference*, Oxford, July 2004.
- Scriven, M. (2007). The logic of evaluation. In Hansen, H.V. et al. (Eds.), *Dissensus and the Search for Common Ground*, CD-ROM (pp 1 – 16). Windsor, ON: OSSA.
- Scriven, M. (1991) Key evaluation checklist, in: Scriven, M. *Evaluation Thesaurus*. 4th Edition. Beverly Hills, CA: Sage.
- Senge, P.M. (1996) *Reflections: Accomplishments and Challenges in developing the Center for Organisational Learning*. Available online.
http://www.orglearn.nl/Archives/RSM_Book/senge.html [2012, August 24].
- Senge, P.M. (1995) *The Fifth Discipline*. London: Nicholas Brealey.
- Senge, P.M. (1990) *The Fifth Discipline*. New York: Doubleday.
- Shadish, W.R., Cook, T.D. and Leviton, L.C. (1991) *Foundations of program evaluation: Theories of practice*. Newbury Park, CA: Sage.
- Shostack, G.L. (1985) Planning the Service encounter, in *The Service Encounter*, Czepiel, J.A., Solomon, M.R., Surprenant, C.F. (Eds.) Lexington, MA: Lexington Books, pp 243 – 254.

- Simon, H. (1977) *The New Science of Management Decision*. New Jersey: Prentice Hall.
- Singh, M. (2001) Kagisano – CHE Higher Education Discussion Series *Re-inserting the “Public Good” into Higher Education Transformation Issue No. 1 (Summer)*, pp 8 – 18.
- Smith, D., Scott, P. and Lynch, J. (1995) The academic service provider: Is the customer always right? *Journal of Higher Education Policy and Management*, 2(2), pp 193 – 203.
- Smith, G., Smith, A. and Clarke, A. (2007) Evaluating service quality in universities: a service department perspective. *Quality Assurance in Education*, 15(3), pp 334 – 351.
- Soutar, G. and McNeil, M. (1996) Measuring service quality in a tertiary institution. *Journal of Educational Administration*. 34(1), pp 72 – 82.
- South African Excellence Foundation (SAEF) (2001) Available Online: <http://www.saef.co.za> [2012, February, 22].
- Spohrer, J., Anderson, L., Pass, N. and Ager, T. (2008) Service science and service-dominant logic. *Otago Forum 2* (2008) – Academic Papers. pp 4 – 18.
- Spohrer, J. and Maglio, P.P. (2010) Towards a science of service systems. Handbook of service science. Service science: Research and innovation in the service economy, pp 157 – 194.
- Spohrer, J. and Maglio, P.P. (2009) Service Science: Toward a smarter planet. *Introduction to Service Engineering*. New Jersey: John Wiley & Sons.
- Spohrer, J., Maglio, P.P., Bailey, J. and Gruhl, D. (2007) Steps Towards a Science of Service Systems. *Computer*, 40(1), (Jan. 2007), pp 71 – 77.
- Spohrer, J., Vargo, S., Maglio, P.M., and Caswell, N. (2008) The Service System is the Basic Abstraction of Service Science. Paper presented at the *Hawaiian International Conference on Systems Sciences HICSS Conference*. 7 – 10 January.
- Stacey, R.D. (1993) *Strategic Management and Organisational Dynamics*. Pitman, London..

- Stame, N. (1999) Small and medium enterprise aid programs: intangible effects and evaluation practice. *Evaluation and Program Planning*, 22, pp 105 – 111.
- Stern, Z.S, Mehrez, A. and Barboy, A. (1994) Academic departments' efficiency via DEA. *Computers and Operations Research*, 21(5), pp 543 – 556.
- Stewart, T. (1992) A Critical Survey of the Status of Multiple Criteria Decision Making Theory and Practice. *OMEGA*, 20(5-6), pp 569 – 586.
- Stodnick, M. and Rogers, P. (2008) Using SERVQUAL to measure the quality of the classroom experience. *Decision Sciences Journal of Innovative Education*, 6(1), pp 115 – 132.
- Strydom, C. (2002) *Business Excellence: An Integrated Approach*. Bellville: University of Stellenbosch.
- Strydom, J.F., Zulu, N. and Murray, L. (2004) Quality, Culture and Change. *Quality in Higher Education*. 10(3), pp 207 - 217.
- Sullivan, P. (2001) *Fund for the development of good management practice*. HEFCE Project ref GMP 200: Improving Higher Education.
- Swift, D. and Morejele, M. (1996) Quality in distance education, in Strydom, A.H., Lategan, L.O.K. & Muller, A. (Eds) *Quality Assurance in South African Higher Education: national and international perspectives*. Bloemfontein: University of the Free State.
- Taket, A. and White, L. (1995) Postmodernism – Why bother?, *Systemist*, 16(3), pp 175 – 176.
- Tam, M. (2001) Measuring Quality and Performance in Higher Education. *Quality in Higher Education*. 7(1), pp 47 – 54.
- Tashakkori, A. and Teddlie, C. (1998) *Mixed Methodologies: Combining Qualitative and Quantitative Approaches*. London. UK: Sage Publications.
- Tauer, L.W., Fried, H.O. and Fry, W.E. (2007) Measuring Efficiencies of Academic Departments with a College. *Education Economics*, 15(4), pp 473 – 489.

- Teas, R.K. (1993) Expectations, performance evaluation and consumers' perceptions of quality. *Journal of Marketing*, Vol. 57, October, pp 18 – 34.
- Teas, R.K. (1994) Expectations as a comparison standard in measuring service quality: an assessment of a reassessment. *Journal of Marketing*. Vol. 58, January, pp 132 – 139.
- Tien, J.M. and Berg, D. (2003) A case for service systems engineering. *The Journal of Systems Science and Systems Engineering*, 12(1), pp 113 – 128.
- Tomkins, C. and Green, R., (1988) An experiment in the use of Data Envelopment Analysis for evaluating the efficiency of UK university departments of accounting. *Financial Accountability and Management*, 4(2), pp 147 – 164.
- Tontini, G. and Picolo, J.D. (2010) Improving gap analysis. *Managing Service Quality*, 20(6), pp 565 – 584.
- Triantaphyllou, E., Shu, B., Nieto Sanchez, S. and Ray, T. (1998) Multi-Criteria Decision Making: An Operations Research Approach. *Encyclopedia of Electrical and Electronics Engineering*, 15, pp 175 – 186.
- Trochim, W.M. (2006). *The Research methods knowledge base*. 2nd Edition. Available online. <http://www.socialresearchmethods.net/kb/index.php> [2011, March 30].
- Trochim, W.M. (2009) Evaluation policy and evaluation practice. In Trochim, W.M., Mark, M.M. & Cooksy, L.J. (Eds). *Evaluation policy and evaluation practice. New Directions for Evaluation*, 123, pp 13 – 32.
- Truethardt, L., Huusko, M. and Saarinen, T. (2006) Management by Results and Higher Education Evaluation as Fashion and Success Stories: The Case of Finland. *Higher Education in Europe*, 31(2). pp 209 – 217.
- Tsouvalis, C. and Checkland, P.B. (1996) Reflecting on SSM: the Dividing Line between 'Real World' and Systems Thinking World'. *Systems Research*, 13(1), pp 34-45.
- Tyler, R.W. (1935) Evaluation: A challenge to progressive education. *Education Research Bulletin*, 14, pp 9 – 16.

- Ulrich, W. (1998) *Systems thinking as if people mattered: critical systems thinking for citizens and managers*. Working paper No 23, Lincoln School of Management, University of Lincolnshire & Humberside, Lincoln.
- Ulrich, W. (1996) *A primer to critical systems heuristics for action researchers*. Centre for Systems Studies: University of Hull, Hull.
- Ulrich, W. (1993) Some difficulties of ecological thinking, considered from a critical systems perspective: A plea for critical systems holism. *Systems Practice*, 6(6), pp 583.
- Ulrich W. (1988) Churchman's 'process of unfolding' – its significance for policy analysis and evaluation. *Systems Practice*, 1, pp 415 – 428.
- Ulrich, W. (1987) Critical heuristics of social systems design. *European Journal of Operational. Research*, 31, pp 276.
- Ulrich, W. (1983) *Critical Heuristics of Social Planning: A new Approach to Practical Philosophy*. Chichester: Wiley.
- Ulrich, W. and Reynolds, M. (2010) Critical systems heuristics. In: Reynolds, M. and Holwell, S. (Eds). *Systems Approaches to Managing Change: A Practical Guide*. London: Springer, pp 243 – 292.
- Umashankar, V. and Dutta, K. (2007) Balanced scorecards in managing higher education institutions: An Indian perspective. *International Journal of Educational Management*, 21(1), pp 54 – 67.
- Upshur, C.C. and Barreto-Cortez, E. (1995) What is participatory evaluation (PE) and what are its roots. *Harvard Family Research Project*, 1(3), pp 7 – 9.
- Ursin, J., Huusko, M., Aittola, H., Kiviniemi, U. and Muhonen, R. (2008) Evaluation and Quality Assurance in Finnish and Italian Universities in the Bologna Process. *Quality in Higher Education*. 14(2), pp 109 – 120.
- Van de Panne, C. (1991) *Performance Evaluation of Academic Units*. Department of Economics, University of Calgary.

- Van den Heever, M. (1997). *A Total Service Quality Strategy For Private Hospitals*. Unpublished MBA dissertation, Potchefstroom University for Christian Higher Education. South Africa.
- Van Dyke, T.P., Prybutok, V.R. and Kappelman, L. (1999) Cautions on the use of the SERVQUAL measure to assess the quality of information systems services. *Decision Sciences*, 30(3), pp 877 – 892.
- Vargo, S.L, Maglio, P.P. and Akaka, M.A. (2008) On value and value co-creation: A service systems and service logic perspective. *European Management Journal*, 26, pp 145 – 152.
- Vargo, S.L. and Lusch, R.F. (2004) Evolving to a new dominant logic for marketing. *Journal of Marketing*, 68(1), pp 1 – 17.
- Venkatesh, A, Penaloza, L. and Firat, F. (2006) The market as a sign system and the logic of the market. In Lusch, R.F. & Vargo, S.L. (Eds.). *The service-dominant logic of marketing: Dialog, debate and directions*. (pp 251 – 265) Armonk, NY: ME Sharpe.
- Vidaver-Cohen, D. (2007) Reputation beyond the Rankings: A Conceptual Framework for Business School Research. *Corporate Reputation Review*, 10(4), pp 278 – 304.
- von Bertalanffy, L. (1968) *General System Theory*. Harmondsworth: Penguin.
- Wahid, R.A. (2001) *Addressing Gaps in Service Quality*. New Straits Times. Available Online. 33 paragraphs. www.adtimes.nstp.com.my/jobstory/2 [2010, June 20].
- Walker, J. and Baker, J. (2000) An Exploratory study of a Multi-Expectation Framework for Services. *Journal of Service Marketing*, 14(5), pp 411 – 431.
- Wallace, C.P. (2003) What price education? *Time International (Europe Edition)*, 15:32.
- Wandersman, A. (2007) Science, evaluation, and accountability: systems approaches to building capacity and getting to outcomes in practice. Paper presented at *Centers for Disease Control and Prevention*, Atlanta, GA.

- Wandersman, A., Snell-Johns, J., Lentz, B.E., Fetterman, D.M., Keener, D.C., Livet, M., Imm, P.S. and Flashpohler, P. (2005) *The Principles of Empowerment Evaluation*. In Fetterman, D.M. & Wandersman, A. (Eds.), *Empowerment Evaluation Principles in Practice* (pp 27 – 41). New York: Guilford Press.
- Webbstock, D. (2002) *The implementation of an internal quality management system: University of Natal*, in Griesel, H., Strydom, A.H. & van der Westhuizen, L.J. (Eds.). *QA in a Transforming University System: Lessons and challenges*. Bloemfontein: University of the Free State.
- Weideman, R. (2008) *Evaluation criteria for selected administrative and support systems in South African Higher Education Institutions*. Unpublished Magister Technologiae (Quality), Cape Peninsula University of Technology. South Africa.
- Weiss, C.H. (1990) *Evaluation for decisions: Is anybody there? Does anybody care?* In Alkin, M. (Ed.), *Debates on evaluation* (pp 171 – 184). Newbury Park, CA: Sage.
- Weiss, C.H. (1998) *Evaluation*. 2nd Edition. Upper Saddle River, NJ: Prentice Hall, Inc.
- Wells, W.D. and Prensky, D. (1996) *Consumer Behaviour*. New York, NY: John Wiley and Sons.
- White, M.D., Abels, E.G. and Nitecki, D.A. (1994) *Measuring Customer Satisfaction and Quality of service in Special libraries*. Report of the research project submitted to University of Maryland.
- Wickson, F., Carew, A.L. and Russel, A.W. (2006) *Transdisciplinary research: Characteristics, quandaries and quality*. *Futures*, 38, pp 1046 – 1059.
- Wiese, M. (2008) *A higher education marketing perspective on choice factors and information sources considered by South African first year University students*. Unpublished doctoral thesis, University of Pretoria. South Africa.
- Wilby, J. (1996) *Developing Total System Intervention (TSI)*. *Systems Practice*, 9(3), pp 231 – 262.

- Wilkie, W.L. and Moore, E.S. (2006) Examining Marketing Scholarship and the Service-Dominant Logic. In Lusch, R.F. & Vargo, S.L. (Eds.). *The service-dominant logic of marketing: Dialogue, Debate and directions* (pp 266 – 278). Armonk, NY: ME Sharpe.
- Wilkins, H., Merrilees, B. and Herington, C. (2007) Toward an understanding of total service quality in hotels. *International Journal of Hospitality Management*, 26(4), pp 840 – 853.
- Wilkinson, A. (2002) ‘Quality assurance in the South African context: lessons and challenges’, in Griesel, H., and Strydom, A.H. & van der Westhuizen, L.J. (Eds.). *Quality Assurance in a transforming university System: Lessons and challenges*. Bloemfontein: CLF printing.
- Williams, J.C. (2008) *A retrospective view of the South African Excellence Model*. Unpublished MBA dissertation, University of Stellenbosch. South Africa.
- Winberg, C. (2004) Becoming a University of Technology, *Sediba sa Thuto: Academic Journal of Vaal University of Technology*, Vol 1, pp 38 – 54.
- Winkler, R.L. (1990) Decision Modeling and rational choice, AHP and utility theory. *Management Science*, 36(3), pp 247 – 248.
- Wisniewski, M. (2001) Using SERVQUAL to Assess Customer Satisfaction with Public Sector Services. *Managing Service Quality*, 11(6), pp 380 – 388.
- Woodruff, R.B., Clemons, D.S., Schumann, D.W., Gardial, S.F. and Bruns, M.J. (1991) The standards issue in CS/D research: A historical perspective. *Journal of Customer Satisfaction Dissatisfaction and Complaining Behaviour*, Vol. 4, pp 103 – 109.
- Worthen, B.R., Sanders, J.R. and Fitzpatrick, J.L. (1997) *Program evaluation: alternative approaches and practical guidelines*. 2nd Edition. New York: Longman.
- Worthington, A. (2001) An Empirical Survey of Frontier Efficiency Measurement Techniques in Education. *Education Economics*, 9(3), pp 245 – 268.
- Wright, C. and O’Neill, M. (2002) Service Quality Evaluation in the Higher Education Sector: An Empirical Investigation of Students’ Perceptions. *Higher Education Research & Development*, 21(1). pp 23 – 39.

Wu, J., DeSarbo, W., Chen, P.J. and Fu, Y.Y. (2006) An analytic approach for customer satisfaction measurement. *Marketing Letters*, 17(3), pp 221 – 238.

Wyngaard, A. and Kapp, C. (2004) Rethinking and re-imagining mergers in further and higher education: a human perspective. *South African Journal of Higher Education*, 18(1), pp 185 – 201.

Yamamoto, G.T. (2006) University evaluation-selection: A Turkish case. *International Journal of Educational Management*, 20(7), pp 559 – 569.

Young, L. and Burgess, B. (2010) *Marketing technology as a service: Proven techniques that add value*. England: John Wiley and Sons.

Zadek, S. (2000) *Beyond Fourth Generation*. Available Online. <http://www.zadek.net/bfge.pdf>. [2012, August 20].

Zakaria, Z.B., Ahmad, A.B. and Norzaidi, M.D. (2009) Determining a World Class University from the Evaluation of Service Quality and Students Satisfaction Level: An Empirical Study in Malaysia. *International Journal of Scientific Research in Education (IFSRE)*, 2(2), pp 59 – 66.

Zangouinezhad, A. and Moshabaki, A. (2011). Measuring university performance using a knowledge-based balanced scorecard. *International Journal of Productivity and Performance Management*, 60(8), pp 824 – 843.

Zeithaml, V.A. and Bitner, M.J. (2003) *Services Marketing*. 3rd Edition. New York, United States of America: The McGraw-Hill Companies Inc.

Zeithaml, V.A., Bitner, M.J. and Gremler, D.D. (2009) *Services Marketing: Integrating Customer Focus Across the Firm*. New York: McGraw-Hill/Irwin.

Zeithaml, V.A., Bitner, M.J. and Gremler, D.D. (2006) *Services Marketing. Integrating Customer Focus Across the Firm*. 4th Edition. USA: McGraw-Hill/Irwin.

Zikmund, W. and D'Amico, M. (2002) *The power of effective marketing: creating and keeping customers in an e-commerce world*. 3rd Edition. Ohio, United States of America: South Western, Thomson Learning.

Zimmermann, H.J. (1991) *Fuzzy Set Theory and Its Applications*. 2nd Edition. Boston, MA: Kluwer Academic Publishers.

APPENDICES

APPENDIX 1: List of Workshop Participants – Pietermaritzburg Campus

APPENDIX 2: List of Workshop Participants – Durban Campus

APPENDIX 3: A rich picture developed by participants of the workshops

APPENDIX 4: CATWOE Analysis

APPENDIX 5: Questionnaire: Boundary questions

APPENDIX 6: Questionnaire: Analytic Hierarchy Process (AHP)

APPENDIX 7: Questionnaire: Evaluation of workshops

APPENDIX 8: Data from workshops

APPENDIX 9: Pairwise Comparison Priority Index

APPENDIX 10: Ethical Clearance Letter

APPENDIX 1: List of Workshop Participants

GROUP 1

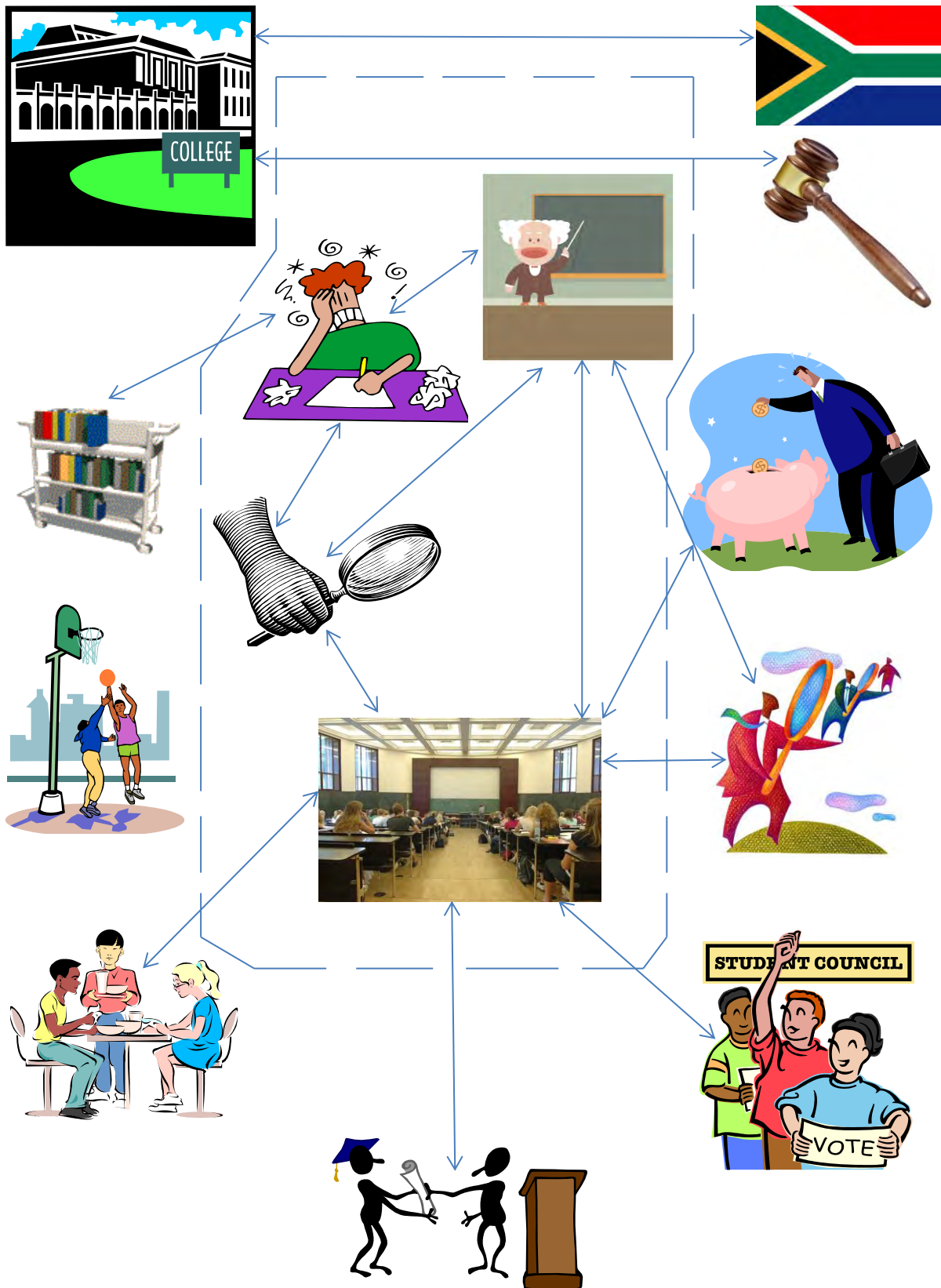
| Surname | Initials | Designation | Contact | Email Address |
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APPENDIX 2: List of workshop participants

GROUP 2

| Surname | Initials | Designation | Contact | Email Address |
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| Reddy | D | Lecturer | 0784508061 | Divakaranr@dut.ac.za |
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| Naicker | NK | Lecturer | 0847744773 | nalindrenn@dut.ac.za |
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| Cooke | LA | Specialist - CQPA | 031 373 6803 | cookela@dut.ac.za |
| Nepal | T | Dean: Accounting & Informatics | 031 373 5597 | Nepal@dut.ac.za |
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| Singh | K | HOD – Information Technology | 031 373 5549 | kesaries@dut.ac.za |
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APPENDIX 3: A rich picture developed by the participants of the workshops



APPENDIX 4: CATWOE ANALYSIS

Customers: The customers, beneficiaries or victims of the provision of the service at a university of technology.

Actors: The people that are involved in the activities in the system – those that are responsible for rendering a service.

Transformation: The process that transforms input into an output. The aspect of the problem that you want to change and improve with respect to service quality at the department.

World-view: Your view of the problem – what assumptions are made, and what do you regard as desirable for an academic department rendering a quality service? What is your perspective of the problems associated with a quality service?

Owners: Those in the university that have decision-making authority – those who can stamp out unsatisfactory service delivery.

Environmental constraints: The social and political environment in which the department operates within the context of the university. The environment includes those factors that will impinge on the situation, and over which the actors and owners have no control.

APPENDIX 5: QUESTIONNAIRE: SERVICE QUALITY OF AN ACADEMIC DEPARTMENT

I am currently engaged in research on the development of a systemic framework for the evaluation of service quality of an academic department at a University of Technology. Please can you take about 15 minutes to complete the following 12 questions as best you can. All information will be treated with strict confidentiality. Your co-operation in this regard will be greatly appreciated.

BOUNDARY QUESTIONS FOR THE EVALUATION AND IMPROVEMENT OF SERVICE QUALITY OF AN ACADEMIC DEPARTMENT AT A UNIVERSITY OF TECHNOLOGY.

1. At a University of Technology, who ought to be the actual clients or recipients of a service offered by an academic department? Whose interests should be served?

2. What is the purpose of the evaluation process? What ought to be the possible gains from the evaluation of service quality of an academic department?

3. How does one determine whether the provision of improved services constitutes an improvement of service quality at the department? Have you witnessed a change in service quality at the department over the last 3 years?

4. Who ought to be the decision maker/s at the university, i.e. Who has the power to change circumstances regarding the rendering of service quality in the department?

5. What resources and other conditions of success ought to be controlled by the decision maker/s when planning evaluation of service quality at an academic department?

6. What should the decision maker/s not have control over during the evaluation of service quality at the department?

7. Who ought to be the planners of evaluation at an academic department? Who are competent to participate in the planning process of service quality at a university?

8. Who should be brought in as experts in the evaluation process particularly to oversee the interest of the students?

9. Who are regarded as assurances of successful implementation? Who should be assumed to provide some guarantee of the proposed improvement of service quality in the department?

10. Who should represent the interests of those negatively affected by the service offered by the department?

11. How should those who have been disadvantaged/dissatisfied by the service be given a chance to express themselves? What process or mechanism should be in place so that representations can be made to the relevant authority with respect to service quality?

12. What space is available for reconciling differing worldviews regarding service quality among the involved (university staff) and the affected (the students)?

Thank you!

APPENDIX 6: EVALUATION OF AN ACADEMIC DEPARTMENT AS A SERVICE PROVIDER AT A UNIVERSITY OF TECHNOLOGY – ORGANISATIONAL ISSUES

You are requested to provide judgements concerning the relative importance of the various factors. Please use the standard AHP scale, where 1 means equally preferred, 3 means moderately preferred, 5 means strongly preferred, 7 means very strongly preferred, and 9 – extremely preferred. 2, 4, 6, 8 are intermediate values.

For each comparison, evaluate the relative importance of the options by placing a number next to the preferred option.

Example 1: If developing and installing a service quality evaluation system is Strongly Preferred or Strongly More Important than Quality of service is not consistent across the university, then:

5_____ Developing and installing a service quality evaluation system as compared to Quality of service is not consistent across the university _____

Example 2: Quality of service is not consistent across the university is Strongly Preferred or Strongly More Important to Developing and installing a service quality evaluation system, then:

_____ Developing and installing a service quality evaluation system as compared to Quality of service is not consistent across the university. 5_____

_____ Developing a service quality evaluation system as compared to Quality of service is not consistent across the university. _____

_____ Developing a service quality evaluation system as compared to Lack of ownership in ensuring and evaluating service quality. _____

_____ Developing a service quality evaluation system as compared to Subject and Lecturer evaluation practices to incorporate elements of service quality. _____

_____ Developing a service quality evaluation system as compared to Creating an organisational culture of efficient service delivery. _____

_____ Quality of service is not consistent across the university as compared to Lack of ownership in ensuring and evaluating service quality. _____

_____ Quality of service is not consistent across the university as compared to Subject and Lecturer evaluation practices to incorporate elements of service quality. _____

_____ Quality of service is not consistent across the university as compared to
Creating an organisational culture of efficient service delivery. _____

_____ Lack of ownership in ensuring and evaluating service quality as compared to
Subject and Lecturer evaluation practices to incorporate elements of service
quality. _____

_____ Lack of ownership in ensuring and evaluating service quality as compared to
Creating an organisational culture of efficient service delivery. _____

_____ Subject and Lecturer evaluation practices to incorporate elements of service
quality as compared to Creating an organisational culture of efficient service
delivery. _____

**EVALUATION OF AN ACADEMIC DEPARTMENT AS A SERVICE
PROVIDER AT A UNIVERSITY OF TECHNOLOGY – EDUCATIONAL &
STAFF AND STUDENT ISSUES**

You are requested to provide judgements concerning the relative importance of the various factors. Please use the standard AHP scale, where 1 means equally preferred, 3 means moderately preferred, 5 means strongly preferred, 7 means very strongly preferred, and 9 – extremely preferred. 2, 4, 6, 8 are intermediate values.

For each comparison, evaluate the relative importance of the options by placing a number next to the preferred option.

EDUCATIONAL ISSUES

_____ Provide skills training to staff to develop customer services as compared to
New general education curriculum to incorporate a module on service
delivery. _____

STAFF AND STUDENT ISSUES

_____ Staff to exercise courtesy towards students as compared to Students to know
their part in co-producing the service. _____

_____ Staff to exercise courtesy towards students as compared to Staff feel
answerable to many bosses. _____

_____ Students to know their part in co-producing the service as compared to Staff
feel answerable to many bosses. _____

GROUPS OF FACTORS

| | | |
|-------|---|-------|
| _____ | Organisational Issues as compared to Educational Issues | _____ |
| _____ | Organisational Issues as compared to Staff & Student Issues | _____ |
| _____ | Educational Issues as compared to Staff & Student Issues | _____ |

APPENDIX 7: Questionnaire for the evaluation of the Service Quality Workshops held with staff and students of a University of Technology.

The questionnaire collects information on the participants' observation of the approach, relevance, importance and aptness of the techniques used in the workshop. The feedback helps to validation the framework used for the evaluation of an academic department as a service provider at a university of technology. Please read each question and circle the number that best expresses your view.

| | | Strongly Disagree | Disagree | Mildly Disagree | Neutral | Mildly Agree | Agree | Strongly Agree |
|----|--|----------------------|----------|--------------------|---------|-----------------|-------|-------------------|
| 1 | The facilitator clearly outlined the objectives of the workshop. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 | The facilitator displayed rich knowledge of Soft System Methodology (SSM) techniques. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3 | The techniques used during the workshop helped me gain a better understanding of all the stakeholders involved in the delivery of service at an academic department. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4 | The techniques (Stakeholder Analysis, Rich pictures, CATWOE, etc) assisted me in appreciating the dynamics involved in service delivery of an academic department. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5 | I found the brainstorming exercise useful in generating ideas for the improvement of service delivery of an academic department. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6 | I found the grouping and the development of the hierarchy made the prioritization of ideas generated from the brainstorming process easier. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7 | I found the pairwise comparison technique relatively easy to follow. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | I think that the Analytic Hierarchy Process (AHP) is an appropriate technique for the prioritization of factors. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9 | I found working in a group beneficial. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10 | I think Group Decision-Making is more useful than Individual Decision-Making in problems associated with service at a university. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| APPENDIX 8: DATA FROM WORKSHOPS | | | | | | | | | | |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 |
| P1 | 6 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 6 |
| P2 | 6 | 6 | 6 | 7 | 7 | 7 | 6 | 6 | 7 | 7 |
| P3 | 7 | 6 | 6 | 7 | 6 | 6 | 6 | 6 | 6 | 4 |
| P4 | 6 | 6 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 |
| P5 | 7 | 7 | 6 | 7 | 7 | 6 | 6 | 6 | 4 | 4 |
| P6 | 7 | 7 | 7 | 6 | 7 | 6 | 6 | 7 | 7 | 6 |
| P7 | 6 | 6 | 7 | 6 | 6 | 5 | 5 | 6 | 7 | 7 |
| P8 | 6 | 6 | 7 | 6 | 6 | 6 | 5 | 5 | 6 | 7 |
| P9 | 7 | 6 | 6 | 6 | 6 | 5 | 5 | 7 | 7 | 7 |
| P10 | 6 | 4 | 7 | 7 | 6 | 5 | 5 | 6 | 7 | 7 |
| P11 | 6 | 2 | 6 | 6 | 6 | 6 | 4 | 4 | 6 | 6 |
| P12 | 6 | 6 | 6 | 6 | 5 | 5 | 7 | 7 | 5 | 5 |
| PIETERMARITZBURG GROUP | | | | | | | | | | |
| MEAN | 6.33 | 5.58 | 6.17 | 6.08 | 5.92 | 5.50 | 5.33 | 5.75 | 6.00 | 6.00 |
| STDEV | 0.49 | 1.38 | 0.72 | 0.90 | 0.90 | 0.80 | 0.89 | 1.06 | 1.13 | 1.13 |
| MEDIAN | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 5.50 | 5.00 | 6.00 | 6.00 | 6.00 |
| MODE | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 5.00 | 6.00 | 7.00 | 7.00 |
| D1 | 6 | 6 | 7 | 6 | 6 | 7 | 6 | 4 | 6 | 6 |
| D2 | 6 | 6 | 4 | 4 | 6 | 5 | 4 | 5 | 6 | 5 |
| D3 | 6 | 6 | 7 | 6 | 6 | 6 | 6 | 6 | 7 | 5 |
| D4 | 6 | 6 | 6 | 6 | 5 | 5 | 6 | 5 | 5 | 7 |
| D5 | 7 | 6 | 7 | 7 | 6 | 5 | 5 | 5 | 6 | 6 |
| D6 | 5 | 6 | 6 | 5 | 5 | 6 | 5 | 5 | 6 | 5 |
| D7 | 6 | 6 | 7 | 6 | 5 | 5 | 5 | 5 | 6 | 6 |
| D8 | 6 | 6 | 6 | 7 | 7 | 5 | 5 | 4 | 6 | 5 |
| D9 | 7 | 7 | 6 | 6 | 7 | 6 | 6 | 5 | 7 | 7 |
| D10 | 5 | 7 | 7 | 5 | 6 | 5 | 5 | 6 | 5 | 5 |
| D11 | 7 | 6 | 6 | 7 | 6 | 6 | 6 | 5 | 5 | 7 |
| D12 | 6 | 6 | 6 | 5 | 5 | 6 | 6 | 6 | 5 | 5 |
| D13 | 7 | 6 | 6 | 6 | 5 | 5 | 4 | 4 | 5 | 5 |
| D14 | 5 | 5 | 6 | 7 | 7 | 5 | 6 | 5 | 5 | 6 |
| D15 | 6 | 7 | 6 | 6 | 7 | 5 | 5 | 5 | 7 | 6 |

| DURBAN GROUP | | | | | | | | | | |
|-----------------------|------|------|------|------|------|------|------|------|------|------|
| MEAN | 6.07 | 6.13 | 6.20 | 5.93 | 5.93 | 5.47 | 5.33 | 5.00 | 5.80 | 5.73 |
| STDEV | 0.70 | 0.52 | 0.77 | 0.88 | 0.80 | 0.64 | 0.72 | 0.65 | 0.77 | 0.80 |
| MEDIAN | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 5.00 | 5.00 | 5.00 | 6.00 | 6.00 |
| MODE | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 5.00 | 6.00 | 5.00 | 6.00 | 5.00 |
| COMBINED GROUP | | | | | | | | | | |
| MEAN | 5.79 | 5.83 | 5.90 | 5.69 | 5.69 | 5.21 | 5.10 | 4.83 | 5.63 | 5.53 |
| STDEV | 1.34 | 1.33 | 1.38 | 1.36 | 1.34 | 1.22 | 1.22 | 1.15 | 1.35 | 1.35 |
| MEDIAN | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 5.00 | 5.00 | 5.00 | 6.00 | 5.87 |
| MODE | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 5.00 | 5.00 | 5.00 | 6.00 | 5.00 |

APPENDIX 9: PAIRWISE COMPARISON

OVERALL-ALL 27 RESPONDENTS

| | Organisational issues | Educational issues | Staff and Student issues | Priority |
|--------------------------|-----------------------|--------------------|--------------------------|----------|
| Organisational issues | 1 | 2.4 | 2.2 | 0.532 |
| Educational issues | | 1 | 2.3 | 0.292 |
| Staff and Student issues | | | 1 | 0.175 |

| | Develop and install a service quality evaluation system at the University | Quality of service is not consistent across the university | Lack of ownership in ensuring and evaluating service quality | Subject and lecturer evaluation practices to incorporate elements of service quality | Create an organisational culture of efficient service delivery. | Priority |
|--|---|--|--|--|---|----------|
| Develop and install a service quality evaluation system at the University | 1 | 3.4 | 2.7 | 2.9 | 1 | 0.354 |
| Quality of service is not consistent across the university | | 1 | 1.3 | 2.4 | 1 | 0.173 |
| Lack of ownership in ensuring and evaluating service quality | | | 1 | 4.3 | 1 | 0.193 |
| Subject and lecturer evaluation practices to incorporate elements of service quality | | | | 1 | 1 | 0.095 |
| Create an organisational culture of efficient service delivery. | | | | | 1 | 0.184 |

| | Provide skills training to staff to develop customer service | New general education curriculum to incorporate a module on service delivery | Priority |
|--|--|--|----------|
| Provide skills training to staff to develop customer service | 1 | 3.2 | 0.762 |
| New general education curriculum to incorporate a module on service delivery | | 1 | 0.238 |

| | Staff to exercise courtesy towards students | Students to know their part in co-producing the service | Staff feel answerable to many bosses | Priority |
|---|---|---|--------------------------------------|----------|
| Staff to exercise courtesy towards students | 1 | 1.3 | 3.1 | 0.461 |
| Students to know their part in co-producing the service | | 1 | 3.7 | 0.411 |
| Staff feel answerable to many bosses | | | 1 | 0.128 |

PIETERMARITZBURG

| | Organisational issues | Educational issues | Staff and Student issues | Priority |
|--------------------------|-----------------------|--------------------|--------------------------|----------|
| Organisational issues | 1 | 3 | 3 | 0.594 |
| Educational issues | | 1 | 2 | 0.249 |
| Staff and Student issues | | | 1 | 0.157 |

| | Develop and install a service quality evaluation system at the University | Quality of service is not consistent across the university | Lack of ownership in ensuring and evaluating service quality | Subject and lecturer evaluation practices to incorporate elements of service quality | Create an organisational culture of efficient service delivery. | Priority |
|--|---|--|--|--|---|----------|
| Develop and install a service quality evaluation system at the University | 1 | 4 | 3 | 3 | 1 | 0.374 |
| Quality of service is not consistent across the university | | 1 | 1 | 3 | 1 | 0.165 |
| Lack of ownership in ensuring and evaluating service quality | | | 1 | 4 | 1 | 0.187 |
| Subject and lecturer evaluation practices to incorporate elements of service quality | | | | 1 | 1 | 0.091 |
| Create an organisational culture of efficient service delivery. | | | | | 1 | 0.183 |

| | Provide skills training to staff to develop customer service | New general education curriculum to incorporate a module on service delivery | Priority |
|--|--|--|----------|
| Provide skills training to staff to develop customer service | 1 | 3 | 0.75 |
| New general education curriculum to incorporate a module on service delivery | | 1 | 0.25 |

| | Staff to exercise courtesy towards students | Students to know their part in co-producing the service | Staff feel answerable to many bosses | Priority |
|---|---|---|--------------------------------------|----------|
| Staff to exercise courtesy towards students | 1 | 1 | 3 | 0.416 |
| Students to know their part in co-producing the service | | 1 | 4 | 0.458 |
| Staff feel answerable to many bosses | | | 1 | 0.126 |

DURBAN

| | Organisational issues | Educational issues | Staff and Student issues | Priority |
|--------------------------|-----------------------|--------------------|--------------------------|----------|
| Organisational issues | 1 | 1.8 | 2.1 | 0.478 |
| Educational issues | | 1 | 2.6 | 0.347 |
| Staff and Student issues | | | 1 | 0.174 |

| | Develop and install a service quality evaluation system at the University | Quality of service is not consistent across the university | Lack of ownership in ensuring and evaluating service quality | Subject and lecturer evaluation practices to incorporate elements of service quality | Create an organisational culture of efficient service delivery. | Priority |
|--|---|--|--|--|---|----------|
| Develop and install a service quality evaluation system at the University | 1 | 3.2 | 2.5 | 2.6 | 1 | 0.336 |
| Quality of service is not consistent across the university | | 1 | 1.5 | 2.3 | 1 | 0.181 |
| Lack of ownership in ensuring and evaluating service quality | | | 1 | 4.5 | 1 | 0.200 |
| Subject and lecturer evaluation practices to incorporate elements of service quality | | | | 1 | 1.4 | 0.108 |
| Create an organisational culture of efficient service delivery. | | | | | 1 | 0.174 |

| | Provide skills training to staff to develop customer service | New general education curriculum to incorporate a module on service delivery | Priority |
|--|--|--|----------|
| Provide skills training to staff to develop customer service | 1 | 3.3 | 0.767 |
| New general education curriculum to incorporate a module on service delivery | | 1 | 0.233 |

| | Staff to exercise courtesy towards students | Students to know their part in co-producing the service | Staff feel answerable to many bosses | Priority |
|---|---|---|--------------------------------------|----------|
| Staff to exercise courtesy towards students | 1 | 1.4 | 3 | 0.471 |
| Students to know their part in co-producing the service | | 1 | 3.5 | 0.396 |
| Staff feel answerable to many bosses | | | 1 | 0.133 |

****NOTE THAT THE DATA FOR ALL 27 RESPONDENTS ABOVE WAS USED IN THE GROUP DECISION MODE AND THEN THE ANALYSIS WAS DONE PER GROUP SO THE PAIRWISE COMPARISON MATRICES ARE EXACTLY THE SAME AS FOR THE 27 RESPONDENTS AND ARE NOT REPEATED HERE****

Appendix 10: Ethical Clearance Letter



**UNIVERSITY OF
KWAZULU-NATAL**

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Ximbap@ukzn.ac.za

1 December 2010

Mr. P Green (895146439)
Leadership Centre

Dear Mr. Green

PROTOCOL REFERENCE NUMBER: HSS/1369/010D
PROJECT TITLE: A systems approach to the evaluation of an Academic Department as a Service Provider at a University of Technology

I wish to inform you that your application has been granted Full Approval through an expedited review process: **EXPEDITED APPROVAL**

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the school/department for a period of 5 years.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

.....
Professor Steven Collings (Chair)
HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE

cc. Supervisor – Mr. S Hardman
cc. Prof. K Pillay
cc. Mrs. C Haddon

Postal Address:

Telephone:

Facsimile:

Email:

Website: www.ukzn.ac.za

Founding Campuses:

■ Edgewood

■ Howard College

■ Medical School

■ Pietermaritzburg

■ Westville