SUMMARY

This study examines the efficacy of collection development and management practices, policies, guidelines and standards in universities of technology to meet the information needs of academics and researchers at such institutions. In South Africa, as in Australasia, technikons or polytechnics have been upgraded first into degree granting institutions and then, at the beginning of the 21st century, into universities of technology. The researcher was concerned that library collections in South African universities of technology have not grown to meet the research and teaching needs of academics at the level of universities offering instruction up to a doctoral level. As research funding, government grants and the general prestige of the institutions depend on the research output of the institutions, it is essential that academics and researchers find the information resources they require in their institutional libraries. Case studies of universities of technology in New Zealand and South Africa reveal that, while Auckland University of Technology has been successful in extending its collection to meet the increasing demands placed on it, the collection development policies, standards and guidelines in a South African university of technology need to be upgraded in order to meet the information needs and information behaviour of their researchers and academics. Current levels of funding for the acquisition of information resources in South Africa lag behind those found at the New Zealand university of technology. The university of technology that was the object of the South African case study needs to bring its collection in line with that of similar institutions worldwide. This entails adapting goals and objectives stating how the collection is to develop, evaluating the collection and the needs of users, changing the Collection Development Policy to reflect the direction collection development will take and ensuring that the institution and the government back this project financially. To this end, a model Collection Development Policy has been drawn up that can be adapted to the local requirements of South African universities of technology to assist with the process of developing and managing library collections that will be worthy of such an institution.

Key terms:

University of technology libraries; Collection development policies; Information needs; Information behaviour; Auckland University of Technology; Scholarly communication; Materials budgets; Library collection size; Traditional information resources; Digital information resources; Library funding.
FOREWORD

To Heather Jenks and other members of staff from the Auckland University of Technology, I offer my sincere thanks for all the time and effort you put into ensuring that I received the information I required as quickly and thoroughly as possible. This study would have been impossible without your friendly and professional assistance.

To senior members of staff at the South African university of technology, thank you very much for all the assistance and information you gave me that enabled me to carry out the case study. Your willingness to help and your time and effort are deeply appreciated.

To my husband, Pieter, thank you for your support, constant flow of tea, proofreading and encouragement throughout this study. Without you, this would have been Eric, the Half-a-Thesis.

To my promoters, Dr Gericke and Prof Machet, I offer my sincere thanks for all the advice, encouragement and assistance. Your intellectual input and technical guidance were invaluable.

To the Unisa Library, and to Mrs Tucker in particular, thank you for reacting so swiftly to every request I sent your way. Your friendly competence is much appreciated.
ACRONYMS USED

ACLS - American Council of Learned Societies
ACRL – Association of College & Research Libraries
AHCI – Arts & Humanities Citation Index
ALA – American Library Association
ARL – Association of Research Libraries
AUT – Auckland University of Technology
CAUL – Council of Australian University Libraries
CCD – Collaborative Collection Development
CCI – Current Collecting Intensity
CDP – Collection Development Policy
CMC – Computer-Mediated Communication
DCI – Desired Collection Intensity
DOI – Digital Object Identifier
E-book – Electronic Book
ECS – Existing Collection Strength
E-journal – Electronic Journal
Email – electronic mail
E-resource – Electronic Resource
EWU – East Washington University
FTE – Full-Time Equivalent
GAELIC - Gauteng and Environs Library and Information Consortium
HDI – Historically-Disadvantaged Institution
HEQC - Higher Education Quality Committee
HTML – Hypertext Markup Language
ICT – Information and Communication Technology
ILL – Interlibrary Loans
IT – Information Technology
JCR – Journal Citation Reports
KFUPM - King Fahd University of Petroleum & Minerals
LAN – Local Area Network
NZQA – New Zealand Qualifications Authority
OCLC – Online Computer Library Center
OPAC – Online Public Access Catalogue
PDF – Personal Document Format
POD – Print-on-Demand
R&D – Research and Development
RLG – Research Libraries Group
SCI – Science Citation Index
CERTEC - Certification Council for Technikon Education
SMT – Science, Medical Sciences and Technology
SPARC - Scholarly Publishing & Academic Resources Coalition
SRC – Student Representative Council
SSCI – Social Science Citation Index
SUNY – State University of New York
TOC – Table of Contents
ULANZ - University Library Aotearoa New Zealand
UNLV - University of Nevada, Las Vegas
URL – Uniform Resource Locator
UTK - University of Tennessee at Knoxville
WAN – Wide Area Network
WLN – Washington Library Network
WWW – World Wide Web
XUT – X University of Technology
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Summary</th>
<th>ii</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreword</td>
<td>iii</td>
</tr>
<tr>
<td>Acronyms used</td>
<td>iv</td>
</tr>
<tr>
<td>List of Tables</td>
<td>xv</td>
</tr>
<tr>
<td>List of Figures</td>
<td>xv</td>
</tr>
</tbody>
</table>

## Chapter 1 Introduction

<table>
<thead>
<tr>
<th>1.1 Background to the problem</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 Statement of the problem</td>
<td>3</td>
</tr>
<tr>
<td>1.3 Purpose of the study</td>
<td>5</td>
</tr>
<tr>
<td>1.4 Assumptions</td>
<td>5</td>
</tr>
<tr>
<td>1.5 Definition of terms</td>
<td>6</td>
</tr>
<tr>
<td>1.5.1 University of technology</td>
<td>6</td>
</tr>
<tr>
<td>1.5.2 Collection development</td>
<td>7</td>
</tr>
<tr>
<td>1.5.3 Collection management</td>
<td>9</td>
</tr>
<tr>
<td>1.5.4 Information needs</td>
<td>11</td>
</tr>
<tr>
<td>1.5.5 Information behaviour</td>
<td>13</td>
</tr>
<tr>
<td>1.5.6 Information-seeking behaviour</td>
<td>13</td>
</tr>
<tr>
<td>1.6 Limitations and delimitation of the study</td>
<td>14</td>
</tr>
<tr>
<td>1.7 Importance of the study</td>
<td>16</td>
</tr>
<tr>
<td>1.8 Research procedures</td>
<td>17</td>
</tr>
<tr>
<td>1.8.1 Research design</td>
<td>17</td>
</tr>
<tr>
<td>1.8.2 Case study methodology</td>
<td>18</td>
</tr>
<tr>
<td>1.8.3 Data collection methods</td>
<td>19</td>
</tr>
<tr>
<td>1.9 Research programme</td>
<td>20</td>
</tr>
</tbody>
</table>
Chapter 2 Collection development and collection management in academic libraries

2.1 Introduction ................................................................. 21

2.2 Factors that influence collection development policies, standards and guidelines ................................. 22

2.2.1 Goals of collection development and management .......................... 24

2.2.2 Determining user needs .................................................. 25

2.2.3 Collection development policies ....................................... 26

2.2.4 International standards for academic libraries ........................... 28

2.2.4.1 Standards for collection development budgets ........................... 29

2.2.4.2 Standards for collection size ............................................. 31

2.2.5 Resource sharing .......................................................... 34

2.2.5.1 Collaborative collection development .................................... 34

2.2.5.2 Academic library consortia ................................................. 35

2.2.5.3 Interlending of library material ........................................... 36

2.2.6 Collection evaluation ..................................................... 37

2.3 Decisions regarding collection development policies, standards and guidelines ......................................... 40

2.3.1 Responsibility for selection in academic libraries ....................... 40

2.3.2 Just-in-case model for collection development ........................... 41

2.3.3 Just-in-time model for collection development ........................... 43

2.3.4 Content-based versus format-based collections ......................... 44

2.3.5 Formats in which information is made available ....................... 45

2.3.6 Access versus ownership ............................................... 46

2.3.6.1 Ownership ................................................................. 46

2.3.6.2 Access ........................................................................... 48

2.4 Changing trends in collection development and management ... 50

2.5 Conclusion ................................................................. 51
Chapter 3  A profile of academics and researchers as information users

3.1 Introduction ................................................................. 53
3.2 Duties and activities of academics ................................. 54
3.3 The academic as creator, user and disseminator of information .... 55
3.4 The academic as teacher .................................................. 57
3.5 The academic as scholar and researcher ............................ 59
3.5.1 Gathering scholarly information ................................. 60
3.5.2 Scholarly writing ....................................................... 61
3.5.3 The academic as researcher ....................................... 64
3.6 The academic in a technikon or university of technology ........ 67
3.7 Conclusion ................................................................. 69

Chapter 4  Information needs of academics and researchers in institutions of higher learning

4.1 Introduction ................................................................. 71
4.2 Reasons for seeking information ..................................... 73
4.2.1 Information for research ............................................. 73
4.2.2 Information for teaching and lecturing ......................... 74
4.2.3 Information for writing and publishing ...................... 74
4.2.4 Other reasons ........................................................ 74
4.3 Need for quick, easy access to information ...................... 75
4.3.1 Information overload ............................................... 77
4.3.2 Need for desktop access to information and library resources ..... 78
4.3.3 Need for gateways and gatekeepers ........................... 79
4.3.4 Need for greater awareness of sources and services ........ 80
4.3.5 Training in the use of electronic resources .................... 81
4.4 Contents versus format ................................................. 82
4.5 Need for traditional media ............................................ 83
4.5.1 Dependence on journals ........................................... 84
4.5.1.1 Need for core journals ........................................ 86
4.5.1.2 Need for document delivery facilities ........................................ 86
4.5.2 Dependence on monographs .......................................................... 87
4.6 Need for electronic media ................................................................. 89
4.6.1 Dependence on electronic journals ............................................... 91
4.6.2 Dependence on electronic books (E-books) ................................... 94
4.6.3 Dependence on aggregated journal databases .............................. 95
4.6.4 Dependence on CD-ROM .............................................................. 96
4.6.5 Dependence on the Internet ......................................................... 97
4.7 Requirements relating to information resources ............................ 100
4.7.1 Comprehensiveness ................................................................. 100
4.7.2 Access to retrospective material ................................................ 101
4.7.3 Special requirements for electronic resources ......................... 102
4.8 Discipline-specific needs ............................................................... 102
4.8.1 Needs of scientists, health care scholars and engineers .......... 102
4.8.2 Needs of humanists ............................................................... 103
4.8.3 Needs of social and business scientists ................................. 105
4.9 Conclusion .......................................................................... 107

Chapter 5 Information behaviour of academics and researchers in institutions of higher learning 109

5.1 Introduction ........................................................................ 109
5.2 Scholarly communication ......................................................... 110
5.2.1 Factors influencing developments in scholarly communication ... 112
5.2.2 Participants in scholarly communication .................................. 116
5.2.3 Traditional print media as a vehicle for scholarly communication ........................................ 119
5.2.4 Electronic means of communicating scholarly information ...... 121
5.2.5 Electronic publishing of preprints ........................................... 124
5.2.6 Self-publishing by scholars .................................................... 124
5.2.7 Peer review in scholarly communication ............................... 126
5.2.8 Initiatives to combat the serials crisis .................................... 127
5.2.9 Predictions for the future of scholarly communication ........... 128
6.2.1.1 Statistics of monographic collections ....................... 161
6.2.1.2 Distinctive components of monographic collections .......... 162
6.2.1.3 Book sales ................................................................ 163
6.2.2 Developing collections of serials ................................. 164
6.2.2.1 Statistics relating to serials ...................................... 165
6.2.2.2 Collection development standards and guidelines for serials .... 167
6.2.2.3 Core collections of serials ....................................... 168
6.2.3 Developing collections of other traditional media .......... 169
6.3 Collection development issues regarding digital media ......... 170
6.3.1 Selection criteria for digital media ............................ 173
6.3.2 Developing CD-ROM collections ................................. 174
6.3.3 Developing e-journal collections ................................. 175
6.3.3.1 Pricing and access models ..................................... 176
6.3.3.2 Benefits relating to e-journals ................................. 177
6.3.3.3 Problems relating to e-journals ............................... 178
6.3.4 Developing collections of journal aggregation services ...... 179
6.3.4.1 Benefits relating to aggregation services ................... 180
6.3.4.2 Problems relating to aggregation services .................. 181
6.3.5 Developing e-book collections ................................... 182
6.3.5.1 Benefits relating to e-books ................................. 183
6.3.5.2 Problems relating to e-books ............................... 184
6.3.6 Managing Internet resources ..................................... 185
6.4 Traditional versus digital media .................................... 187
6.4.1 Digital libraries ..................................................... 189
6.4.2 Hybrid collections ................................................. 191
6.5 Conclusion .................................................................. 192

[Boxed text]

Chapter 7  Collection development and management at two universities of technology – report of case studies 194

7.1 Introduction .............................................................. 194
7.1.1 Data collection methods used .................................. 195
7.1.2 Role of the researcher ............................................. 196
7.1.3 Reporting style ..................................................... 197
# Conclusions and recommendations

8.1 Introduction ................................................................. 256
8.2 Factors to consider when formulating policies, standards and guidelines for developing and managing collections for researchers and academics in academic libraries ............... 258
8.3 How academics and researchers in universities and universities of technology interact with information ......................... 261
8.4 Information needs of academics and researchers ................. 261
8.5 Information behaviour of academics and researchers .......... 264
8.5.1 Scholarly communication .............................................. 264
8.5.2 Ways in which academics and researchers seek and use information ............................................................... 265
8.6 Collection development issues relating to various types of information media ............................................................ 267
8.6.1 Collection of traditional media ..................................... 267
8.6.2 Collection of digital media ............................................ 267
8.7 Comparison between the collection development policies, standards and guidelines of two universities of technology ...... 270
8.7.1 Goals and objectives relating to collection development ........ 270
8.7.2 Ascertaining user needs ................................................ 271
8.7.3 Collection development policies ..................................... 272
8.7.4 Budgetary allocations for collection development ............. 273
8.7.5 Collection evaluation .................................................... 275
8.7.6 Collection size ............................................................ 276
8.7.7 Resource sharing ........................................................ 278
8.7.8 Responsibility for selection .......................................... 278
8.7.9 Just-in-case or just-in-time model of collection development .... 279
8.8 Adequacy of collection development policies, guidelines and standards at universities of technology to satisfy the information needs and behaviour of lecturers and researchers ........... 279
8.9 Model CDP for a university of technology .......................... 281
8.10 Topics for further research ............................................. 299
8.11 Conclusion .......................................................................... 299

REFERENCES ........................................................................... 301
**LIST OF TABLES**

<table>
<thead>
<tr>
<th>Table no.</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-1</td>
<td>Total library expenditure per FTE student</td>
<td>219</td>
</tr>
<tr>
<td>7-2</td>
<td>Percentage of total institutional budget given to AUT Library</td>
<td>219</td>
</tr>
<tr>
<td>7-3</td>
<td>AUT collection strength – 1996</td>
<td>223</td>
</tr>
</tbody>
</table>

**LIST OF FIGURES**

<table>
<thead>
<tr>
<th>Figure no.</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-1</td>
<td>A model for collection development and management in academic libraries</td>
<td>23</td>
</tr>
<tr>
<td>7-1</td>
<td>Proportion of budget spent on various formats – AUT</td>
<td>216</td>
</tr>
<tr>
<td>7-2</td>
<td>Materials budgets</td>
<td>218</td>
</tr>
<tr>
<td>7-3</td>
<td>Proportion of budget spent on various formats – XUT</td>
<td>221</td>
</tr>
<tr>
<td>7-4</td>
<td>Size of book stock</td>
<td>224</td>
</tr>
<tr>
<td>7-5</td>
<td>Number of monographs added annually</td>
<td>225</td>
</tr>
<tr>
<td>7-6</td>
<td>Non-book items added annually</td>
<td>228</td>
</tr>
<tr>
<td>7-7</td>
<td>Print serial subscriptions</td>
<td>229</td>
</tr>
<tr>
<td>7-8</td>
<td>E-resources</td>
<td>233</td>
</tr>
</tbody>
</table>
In the social and life sciences, a case study is a research method involving an up-close, in-depth, and detailed examination of a particular case. For example, a case study in medicine may examine a specific patient a doctor treated, and a case study in business might study a particular firm's strategy. Generally, a case can be nearly any unit of analysis, including individuals, organizations, events, or actions. The process of researching and writing a longer essay (2,000–5,000 words) 273. Example essay 275. Self-assessment exercises Glossary Index.

I Decide if the following ideas about time management are true or false: (a) Essay deadlines are often several months after the course starts. (b) The best way to plan an assignment is to use some kind of wall chart. (c) Reading and note-making often take longer than writing. (d) The best time to study is after midnight. (e) It’s a good idea to make time every day to relax with friends. (t/f) (t/f) (t/f) (t/f) (t/f). In fact, all of these are true except for (d): it’s better to study during the day and then get a good night’s sleep. The key point is to schedule the work for each task week by Case studies of universities of technology in New Zealand and South Africa reveal that, while Auckland University of Technology has been successful in extending its collection to meet the increasing demands placed on it, the collection development policies, standards and guidelines in a South African university of technology need to be upgraded in order to meet the information needs and information behaviour of their researchers and academics. Current levels of funding for the acquisition of information resources in South Africa lag behind those found at the New Zealand university of technology...