

**Developing a framework for the  
implementation of knowledge management  
within skills development providers in  
South Africa**

**RK Letshaba**

 **Orchid. org/0000-0002-5441-997X**

Thesis accepted in fulfilment of the requirements for the degree  
**Doctor of Philosophy in Business Administration** at the North-  
West University

Promoter: Dr NK Ndlovu

## **DECLARATION**

I, Ralebitso Kenneth Letshaba, declare that the thesis titled *Developing a framework for the implementation of knowledge management within the Skills development providers in South Africa* is my own original work. I further affirm that this work has not been submitted to any institution for any degree purposes. All sources used and quoted in the study have been indicated and acknowledged through a comprehensive list of references.

## **LETTER OF CONSENT**

I, RK Letshaba and I, NK Ndlovu, hereby declare that the inputs and efforts of Ralebitso Kenneth Letshaba in the writing of this thesis are of satisfactory scope to be a reflection of his own efforts. I hereby grant permission that he may submit this thesis for examination purposes in partial fulfilment of the requirements for the degree Doctor of Philosophy in Economic and Management Sciences with Business Administration.

## ACKNOWLEDGEMENTS

I would like to take this opportunity to express my appreciation to everyone who contributed in making my studies possible and make this goal come true.

Firstly, I want to express my gratitude to the almighty God and my Forefathers, who have protected me throughout my life. I am grateful for their blessings and guardianship.

I want to thank my supervisor, "*Gatsheni, Boya Benyathi*" Dr NK Ndlovu, for his advice, encouragement, and belief in me.

I would like to thank the North-West University and its staff for affording me the opportunity to pursue this qualification. Also, to all respondents and participants who took part in this study.

I want to thank the Department of Higher Education and Training, and the North-West University Business School for funding towards this study; it really made a huge difference.

A special thanks to my wife, Mathabiso Letshaba, my mother, Mataelo Letshaba, and my three children, Retshireleditswe, Reatile, Omogolo, and the entire Letshaba clan for their love, support, and prayers during the course of my studies.

I really appreciate the words of encouragement from Dr Shole, Dr Ramoliki, Ntate Nkoe, Tersia Ollewagen, Paballo Mabele, Thabo Ramokoatsi, Andile Fumba and Tshegofatso Namola.

## **DEDICATIONS**

I dedicate this research to my deceased family members who have influenced and believed in me. My late grandfather, Ntate Mofokeng, my late grandmother, Mme Mathabo, my late uncles Malome Mojalefa and Malome Rasethunya, and finally, my late brother Sam: “Thank you for the life lessons during your short stay, how I wish I framed your smiles to hang them in a more permanent way.”

## **ABSTRACT**

Organisations view knowledge management (KM) as an essential strategic resource and an element of competitive edge over rivals. Although numerous scholars have extensively studied knowledge management, studies on KM within Skills Development Providers (SDPs) are lacking. Knowledge management has been practised in organisations; however, there are no formalised structures or frameworks for its implementation. This assertion is worrying since SDPs are operating in the knowledge economy through the facilitation of skills training and development programmes. It is crucial to have a framework for the implementation of knowledge management that will assist through the creation, acquisition, storing, dissemination and utilisation of both types of knowledge tacit and explicit throughout the skills development providers. The primary aim of this investigation was to formulate a framework for the implementation of knowledge management within skills development providers in South Africa.

This study was grounded on both the Knowledge-Based-View and Resource-Based View theories founded on the principle about the nature of knowledge, resources and their role within the organisation. Moreover, the thesis was oriented and guided on both the pragmatism and interpretivism research paradigms. Therefore, the parallel mixed-method research was implemented for the investigation. A non-probability sampling methods (convenience and judgemental sampling techniques) were employed in the study. The quantitative data collection made use of 237 completed questionnaires from the employees, whereas for qualitative data gathering, 18 interviews were conducted with the owners/managers of SDPs operating within North West Province of South Africa. Data analysis of the quantitative research was performed using the Microsoft Excel and SPSS software to present the descriptive analysis, and the data analysis of the qualitative research was performed through the Atlas.ti software to illustrate the research themes that emerged from the study.

From the findings, the employees were able to identify different categories/types of knowledge available at their organisations. Moreover, the findings revealed that, within SDPs, the employees understand and are familiar with the concept of KM. The knowledge management processes presented a notable prevalence within SDPs. Despite the absence of a structured framework for knowledge management activities, it is noteworthy that these processes are indeed implemented. The findings presented that the KM enablers, i.e. leadership, culture and technology, exist within SDPs. Furthermore, the significant importance of system tools in facilitating knowledge management was recognised within the skills development providers. Lastly, the primary objective of the investigation was achieved by developing a framework for the implementation of knowledge management within skills development providers.

**Keywords:** Knowledge, knowledge managemet, knowledge management processes, implementation of knowledge management, skills development, skills development providers, framework

## **Related Publications**

Letshaba, R.K. & Ndlovu, K. 2023. An overview of knowledge management within Skills development providers: A conceptual paper. Proceedings of the *International Business Conference (IBC 2023)*, Swakopmund, Swakopmund Hotel and Entertainment Centre, Namibia, 24-27 September 2023.

Letshaba, R.K. & Ndlovu, N.K. 2024. Exploring knowledge management in skills development providers. *South African Journal of Information Management* (submitted for review)

Letshaba, R.K. & Ndlovu, N.K. 2024. A critical assessment of the barriers and challenges to knowledge management implementation in the skills development sector of South Africa. Social Science International Research Conference, 25-27 September 2024, Mauritius, Venue: (TBC). (submitted for review)

DECLARATION .....	i
LETTER OF CONSENT .....	ii
ACKNOWLEDGEMENTS .....	iii
DEDICATIONS .....	iv
ABSTRACT .....	v
LIST OF TABLES .....	xvi
LIST OF FIGURES .....	xvii
LIST OF ABBREVIATIONS AND ACRONYMS .....	xix
<b>TABLE OF CONTENTS</b>	
<b>CHAPTER 1: INTRODUCTION</b>	
1.1 OVERVIEW .....	1
1.2 BACKGROUND TO THE STUDY .....	2
1.3 PROBLEM STATEMENT .....	4
1.4 SIGNIFICANCE OF THE STUDY .....	5
1.5 OBJECTIVES OF THE STUDY .....	6
1.6 RESEARCH QUESTIONS .....	6
1.7 DEFINING THE KEY CONCEPTS .....	7
<b>1.7.1 Skills development</b> .....	7
<b>1.7.2 Skills development provider</b> .....	7
<b>1.7.3 Knowledge</b> .....	7
<b>1.7.4 Knowledge management</b> .....	7
1.8 RESEARCH METHODOLOGY.....	8
<b>1.8.1 Research paradigm</b> .....	8
<b>1.8.2 Research method</b> .....	8
<b>1.8.3 Research design</b> .....	8
<b>1.8.4 Delimitation of study</b> .....	9
1.9 RESEARCH PROCESSES.....	9
<b>1.9.1 Population</b> .....	9
<b>1.9.2 Sample method and sample size</b> .....	9
<b>1.9.3 Data collection instruments</b> .....	10
<b>1.9.4 Data collection</b> .....	11
<b>1.9.5 Data coding and analysis</b> .....	11
1.10 RELIABILITY AND VALIDITY .....	12
1.11 TRUSTWORTHINESS .....	13

1.12 ETHICAL CONSIDERATIONS .....	13
1.13 STRUCTURE OF THE THESIS .....	13
1.14 CHAPTER SUMMARY .....	15
<b>CHAPTER 2: OVERVIEW OF SKILLS DEVELOPMENT AND SKILLS DEVELOPMENT PROVIDERS</b>	
2.1 CHAPTER OVERVIEW .....	16
2.2 SKILLS DEVELOPMENT OVERVIEW .....	16
2.3 INTERNATIONAL PERSPECTIVES ON SKILLS DEVELOPMENT .....	17
<b>2.3.1 Asian context</b> .....	18
<b>2.3.2 European context</b> .....	21
<b>2.3.3 Western context</b> .....	23
<b>2.3.4 African context</b> .....	25
<b>2.3.5 South African context</b> .....	28
2.4 SKILLS DEVELOPMENT DEFINITION .....	29
2.5 SKILLS DEVELOPMENT PROCESS .....	30
2.6 DEFINITION OF A SKILLS DEVELOPMENT PROVIDER.....	31
2.7 THE RESPONSIBILITIES OF SKILLS DEVELOPMENT PROVIDERS .....	32
2.8 PROGRAMMES OFFERED BY SKILLS DEVELOPMENT PROVIDERS .....	34
2.9 REGULATORY BODIES .....	36
<b>2.9.1 Sector Education and Training Authorities (SETAs)</b> .....	36
<b>2.9.2 Quality Council for Trades and Occupations (QCTO)</b> .....	39
<b>2.9.3 The South African Qualifications Authority (SAQA)</b> .....	39
<b>2.9.4 Education and Training Quality Assurance (ETQA)</b> .....	39
<b>2.9.5 National Skills Authority</b> .....	40
2.10 SKILLS DEVELOPMENT PROVIDER ACCREDITATION PROCESS.....	41
2.11 LEGISLATION APPLICABLE TO SKILLS DEVELOPMENT PROVIDERS .....	43
<b>2.11.1 Skills Development Act (97 of 1998)</b> .....	44
<b>2.11.2 Skills Development Levies Act</b> .....	45
<b>2.11.3 National Qualifications Framework (NQF) Act 67 of 2008</b> .....	45
<b>2.11.3.1 Outcomes-based education (OBET)</b> .....	46
<b>2.11.3.2 Recognition of prior learning (RPL)</b> .....	47
<b>2.11.3.3 Unit standards</b> .....	47
<b>2.11.4 South African Qualification Authority Act 58 of 1995</b> .....	47
2.12 NATIONAL SKILLS DEVELOPMENT STRATEGY .....	48

2.13 CHAPTER SUMMARY .....	50
<b>CHAPTER 3: KNOWLEDGE MANAGEMENT LITERATURE REVIEW</b>	
3.1 CHAPTER OVERVIEW .....	51
3.2 DIFFERENCE BETWEEN DATA, INFORMATION AND KNOWLEDGE.....	51
3.3 KNOWLEDGE .....	52
3.4 CLASSIFICATION OF KNOWLEDGE .....	54
3.5 KNOWLEDGE-BASED VIEW .....	56
3.6 RESOURCE-BASED VIEW .....	57
3.7 KNOWLEDGE MANAGEMENT .....	58
3.8 COMPONENTS OF KNOWLEDGE MANAGEMENT .....	59
<b>3.8.1 People .....</b>	<b>60</b>
<b>3.8.2 Technology .....</b>	<b>62</b>
<b>3.8.3 Process.....</b>	<b>62</b>
3.9 KNOWLEDGE MANAGEMENT PROCESSES .....	63
<b>3.9.1 Knowledge creation .....</b>	<b>65</b>
<b>3.9.2 Knowledge acquisition.....</b>	<b>65</b>
<b>3.9.3 Knowledge storage .....</b>	<b>66</b>
<b>3.9.4 Knowledge sharing.....</b>	<b>66</b>
<b>3.9.5 Knowledge application .....</b>	<b>67</b>
3.10 KNOWLEDGE MANAGEMENT SYSTEMS .....	68
<b>3.10.1 Content management systems (CMS) .....</b>	<b>69</b>
<b>3.10.2 Database management system (DBMS) .....</b>	<b>69</b>
<b>3.10.3 Decision support systems.....</b>	<b>69</b>
<b>3.10.4 Intranet infrastructures.....</b>	<b>69</b>
<b>3.10.5 Group wares .....</b>	<b>70</b>
<b>3.10.6 Data warehouse .....</b>	<b>70</b>
<b>3.10.7 Business intelligence tools.....</b>	<b>70</b>
<b>3.10.8 E-mail.....</b>	<b>70</b>
<b>3.10.9 Knowledge portals .....</b>	<b>70</b>
<b>3.10.10 Workflow management system.....</b>	<b>70</b>
3.11 KNOWLEDGE MANAGEMENT MODELS.....	71
<b>3.11.1 Nonaka-Takeuchi model .....</b>	<b>72</b>
<b>3.11.2 Boisot’s model.....</b>	<b>76</b>
<b>3.11.3 Frid’s KM Model .....</b>	<b>81</b>

3.11.4 The 360-degree knowledge management model.....	82
3.12 IMPORTANCE AND BENEFITS OF KNOWLEDGE MANAGEMENT.....	878
3.13 CRITICAL SUCCESS FACTORS OF KNOWLEDGE MANAGEMENT IMPLEMENTATION.....	89
3.13.1 Management leadership and support.....	89
3.13.2 Organisational culture.....	90
3.13.3 Organisational structure .....	90
3.13.4 Training and education .....	91
3.13.5 Information technology .....	91
3.13.6 Rewards and motivation.....	92
3.14 KNOWLEDGE MANAGEMENT IMPLEMENTATION STEPS.....	92
3.15 CHALLENGES OF KNOWLEDGE MANAGEMENT IMPLEMENTATION .....	93
3.16 KNOWLEDGE MANAGEMENT IMPLEMENTATION FRAMEWORK .....	95
3.17.CRITICAL LITERATURE ANALYSIS .....	97
3.18 CHAPTER SUMMARY.....	988
<b>CHAPTER 4: RESEARCH METHODOLOGY</b>	
4.1 CHAPTER OVERVIEW .....	99
4.2 RESEARCH PARADIGM .....	99
4.2.1 Positivism.....	100
4.2.2 Post-positivism.....	100
4.2.3 Constructivism .....	101
4.2.4 Interpretivism.....	102
4.2.5 Pragmatism.....	103
4.3 CHARATERISTICS OF RESEARCH PARADIGMS .....	104
4.3.1 Epistemology .....	104
4.3.2 Ontology: .....	105
4.3.3 Methodology:.....	105
4.3.4 Axiology: .....	105
4.4 RESEARCH METHOD.....	106
4.4.1 Quantitative .....	107
4.4.2 Qualitative .....	107
4.4.3 Mixed-method research.....	108
4.5 RESEARCH DESIGN .....	109
4.5.1 Exploratory research .....	110

<b>4.5.2 Descriptive research.....</b>	<b>110</b>
<b>4.5.3 Explanatory research.....</b>	<b>111</b>
<b>4.5.4 Experimental .....</b>	<b>111</b>
<b>4.6 RESEARCH PROCESS .....</b>	<b>111</b>
<b>4.6.1 Population.....</b>	<b>111</b>
<b>4.6.2 Sample method.....</b>	<b>112</b>
<i>4.6.2.1 Probability sampling .....</i>	<i>113</i>
<i>4.6.2.1.1 Systematic random sampling .....</i>	<i>113</i>
<i>4.6.2.1.2 Stratified random sampling .....</i>	<i>113</i>
<i>4.6.2.1.3 Cluster sampling .....</i>	<i>113</i>
<i>4.6.2.1.4 Multi-stage sampling.....</i>	<i>113</i>
<i>4.6.2.2 Non-probability sampling .....</i>	<i>114</i>
<i>4.6.2.2.1 Convenience sampling .....</i>	<i>114</i>
<i>4.6.2.2.2 Snowball sampling .....</i>	<i>114</i>
<i>4.6.2.2.3 Quota sampling .....</i>	<i>114</i>
<i>4.6.2.2.4 Judgement sampling .....</i>	<i>114</i>
<b>4.6.3 Sample frame.....</b>	<b>114</b>
<b>4.6.4 Sample size.....</b>	<b>115</b>
<b>4.7 DATA COLLECTION .....</b>	<b>115</b>
<b>4.7.1 Questionnaire .....</b>	<b>116</b>
<b>4.7.2 Interviews.....</b>	<b>117</b>
<b>4.8 DATA ANALYSIS.....</b>	<b>118</b>
<b>4.8.1 Quantitative data analysis.....</b>	<b>118</b>
<b>4.8.2 Qualitative data analysis .....</b>	<b>119</b>
<b>4.8.2.1 Thematic analysis.....</b>	<b>119</b>
<b>4.9 RELIABILITY.....</b>	<b>120</b>
<b>4.9.1 Cronbach’s alpha .....</b>	<b>120</b>
<b>4.10 VALIDITY .....</b>	<b>121</b>
<b>4.10.1 Content validity.....</b>	<b>121</b>
<b>4.10.2 Construct validity.....</b>	<b>121</b>
<b>4.10.3 Convergent validity.....</b>	<b>122</b>
<b>4.10.4 Discriminant validity .....</b>	<b>122</b>
<b>4.11 TRUSTWORTHINESS .....</b>	<b>122</b>
<b>4.11.1 Credibility.....</b>	<b>122</b>

<b>4.11.2 Dependability</b> .....	122
<b>4.11.3 Transferability</b> .....	123
<b>4.11.4 Confirmability</b> .....	123
4.12 ETHICAL CONSIDERATIONS.....	123
4.13 CHAPTER SUMMARY.....	124
<b>CHAPTER 5: QUANTITATIVE DADTA ANALYSIS AND INTERPRETATION OF THE RESULTS</b>	
5.1 CHAPTER OVERVIEW.....	125
5.2 QUANTITATIVE DATA ANALYSIS.....	125
5.3 DEMOGRAPHIC PROFILE OF THE RESPONDENTS.....	127
<b>5.3.1 Age of respondents</b> .....	127
<b>5.3.2 Highest qualification of respondents</b> .....	128
<b>5.3.3 Working experience of respondents</b> .....	129
<b>5.3.4 Job title of respondents</b> .....	131
<b>5.3.5 Summary of demographics responses</b> .....	132
5.4 RELIABILITY AND VALIDITY OF THE QUESTIONNAIRE.....	132
5.5 RELIABILITY TEST OF THE MEASUREMENT SCALES.....	133
5.6 VALIDITY.....	134
<b>5.6.1 Convergent validity</b> .....	134
<b>5.6.2 Discriminant validity</b> .....	136
5.7 CATEGORIES OF KNOWLEDGE.....	138
<b>5.7.1 Types of knowledge available in the organisation</b> .....	139
5.8 DESCRIPTIVE STATISTICS: SUMMARY OF LIKERT SCALE RESULTS.....	141
<b>5.8.1 Knowledge management processes</b> .....	141
<b>5.8.2 Knowledge management leadership</b> .....	143
<b>5.8.3 KM culture</b> .....	145
<b>5.8.4 KM technology</b> .....	147
<b>5.8.5 KM measurement</b> .....	149
<b>5.8.6 The drivers for knowledge management</b> .....	152
<b>5.8.7 The systems tools</b> .....	155
<b>5.8.8 Specifications of the KM system</b> .....	157
<b>5.8.9 Knowledge management barriers and challenges</b> .....	159
<b>5.8.10 Critical Success Factors of KM systems</b> .....	161
5.9 SUMMARY OF THE QUANTITATIVE RESULTS OF THE STUDY.....	163

5.10 CHAPTER SUMMARY.....	164
<b>CHAPTER 6: QUALITATIVE DATA ANALYSIS AND INTERPRETATION OF THE RESULTS</b>	
6.1 CHAPTER OVERVIEW .....	165
6.2 QUALITATIVE DATA ANALYSIS .....	165
6.3 THE ATTRIBUTES OF INTERVIEWS PARTICIPANTS.....	166
6.4 INTERPRETATION AND DISCUSSION OF QUALITATIVE RESULTS BASE ON THEMES.....	168
6.5 TYPES OF KNOWLEDGE IN ORGANISATIONS .....	169
<b>6.5.1 Explicit knowledge .....</b>	<b>171</b>
<b>6.5.2 Tacit knowledge .....</b>	<b>171</b>
<b>6.5.3 Personal and organisational knowledge.....</b>	<b>172</b>
<b>6.5.4 Craft-based knowledge.....</b>	<b>172</b>
<b>6.5.5 Practical knowledge .....</b>	<b>173</b>
<b>6.5.6 Cognitive knowledge.....</b>	<b>173</b>
6.6 SOURCES OF KNOWLEDGE ACQUISITION .....	174
<b>6.6.1 Formal training and skills analysis .....</b>	<b>175</b>
<b>6.6.2 Internet and external partnerships .....</b>	<b>175</b>
<b>6.6.3 Seminars and workshops.....</b>	<b>176</b>
<b>6.6.4 Meetings.....</b>	<b>176</b>
<b>6.6.5 Employee knowledge sharing.....</b>	<b>177</b>
<b>6.6.6 Research.....</b>	<b>177</b>
6.7 RECOGNITION OF KNOWLEDGE AS A STRATEGIC ASSET .....	178
6.8 ICTS USED IN KNOWLEDGE MANAGEMENT.....	181
6.9 KNOWLEDGE AND STAFF RETENTION .....	186
6.10 REWARDS AND INCENTIVES FOR KNOWLEDGE .....	189
6.11 KNOWLEDGE SHARING .....	190
6.12 TRUST IN KNOWLEDGE MANAGEMENT .....	193
6.13 LEARNING AND DEVELOPMENT.....	195
<b>6.13.1 Culture of learning and development .....</b>	<b>197</b>
<b>6.13.2 Learning culture.....</b>	<b>197</b>
<b>6.13.3 Training methods and tools.....</b>	<b>198</b>
<b>6.13.4 Lack of learning culture .....</b>	<b>200</b>
6.14 BARRIERS TO KNOWLEDGE MANAGEMENT IMPLEMENTATION .....	201

6.14.1 Load shedding, human resources, and funding .....	204
6.14.2 Clarity, language, and policy implementation .....	205
6.14.3 Personal device requirements and limited opportunity for idea sharing .....	206
6.14.4 Scarce skilled labour.....	206
6.14.5 Lack of commitment, management, and support .....	207
6.15. CHAPTER SUMMARY.....	211
<b>CHAPTER 7: PROPOSED FRAMEWORK FOR THE IMPLEMENTATION OF KNOWLEDGE MANAGEMENT</b>	
7.1 CHAPTER OVERVIEW .....	212
7.2 KNOWLEDGE MANAGEMENT PROCESSES .....	212
7.3 KNOWLEDGE MANAGEMENT ENABLERS .....	213
7.4 KNOWLEDGE MANAGEMENT SYSTEMS/ TOOLS .....	214
7.5 PROPOSED FRAMEWORK FOR THE IMPLEMENTATION OF KNOWLEDGE MANAGEMENT WITHIN THE SKILLS DEVELOPMENT PROVIDERS .....	215
7.5.1 Knowledge Management Initiative .....	217
7.5.1.1 <i>KM policy</i> .....	217
7.5.1.2 <i>KM awareness</i> .....	217
7.5.1.3 <i>KM training</i> .....	217
7.5.2 Knowledge management processes .....	218
7.5.2.1 <i>Knowledge creation</i> .....	218
7.5.2.2 <i>Knowledge acquisition</i> .....	218
7.5.2.3 <i>Knowledge storage</i> .....	218
7.5.2.4 <i>Knowledge sharing</i> .....	218
7.5.2.5 <i>Knowledge application</i> .....	218
7.5.3 Knowledge management system/tools.....	219
7.5.4 Monitoring and evaluation of KM processes.....	219
7.5.5 Enhanced performance and competitive advantage .....	218
7.6 CHAPTER SUMMARY.....	220
<b>CHAPTER 8: CONCLUSIONS, RECOMMENDATIONS AND FUTURE RESEARCH</b>	
8.1 CHAPTER OVERVIEW .....	221
8.2 RESEARCH QUESTION RESOLUTIONS .....	214
8.3 CONCLUSIONS ON KNOWLEDGE MANAGEMENT PROCESSES .....	221
8.4 CONCLUSIONS ON KNOWLEDGE MANAGEMENT ENABLERS.....	223
8.5 CONCLUSIONS ON KNOWLEDGE MANAGEMENT SYSTEMS/ TOOLS .....	224

8.6 CONCLUSIONS ON THE DEVELOPED FRAMEWORK .....	224
8.7 RECOMMENDATIONS.....	225
<b>8.7.1 Recommendations on knowledge management processes .....</b>	<b>225</b>
<b>8.7.2 Recommendations on knowledge management enablers .....</b>	<b>225</b>
<b>8.7.3 Recommendations on knowledge management systems/tools .....</b>	<b>226</b>
<b>8.7.4 Recommendations on developed framework.....</b>	<b>226</b>
<b>8.7.5 Recommendations for further research.....</b>	<b>226</b>
<b>8.8 CONTRIBUTION OF THE STUDY .....</b>	<b>227</b>
8.9 LIMITATIONS OF THE STUDY.....	2278
<b>8.10 MANAGERIAL IMPLICATIONS .....</b>	<b>228</b>
8.11 CONCLUSION.....	2288
REFERENCES .....	23030
<b>APPENDIX A: Informed consent .....</b>	<b>262</b>
<b>APPENDIX B: Questionnaire .....</b>	<b>264</b>
<b>APPENDIX C: Interview schedule .....</b>	<b>272</b>
<b>APPENDIX D: Ethical clearance letter .....</b>	<b>274</b>
<b>APPENDIX E: Language editing letter .....</b>	<b>276</b>

## LIST OF TABLES

Table 2.1:	Types of training interventions	35
Table 2.2:	List of Sector Education and Training Authorities (SETAs)	37
Table 2.3:	Functions performed by the SETAs	38
Table 3.1:	Summarises of the major attributes of tacit and explicit knowledge	56
Table 3.2:	Boisot's knowledge category model	78
Table 4.1:	Difference between quantitative and qualitative research methods	102
Table 4.2:	Likert scale representation	117
Table 4.3:	Guidelines for Cronbach's alpha coefficient	120
Table 5.1:	The response rate	125
Table 5.2:	Age category of respondents	127
Table 5.3:	Highest qualification of respondents	128
Table 5.4:	Working experience of respondents	129
Table 5.5:	Job title of respondents	131
Table 5.6:	Reliability assessment	133
Table 5.7:	Item-to-total correlation values	134
Table 5.8:	Correlation between variables	137
Table 5.9:	Understanding and familiarity with the concept of knowledge management	138
Table 5.10:	Types of knowledge available in the organisation	139
Table 5.11:	Critical success factors of KM systems	162
Table 6.1:	Characteristics of interview participants	167

## LIST OF FIGURES

Figure 1.1:	The steps of data analysis	12
Figure 2.1:	Skills development process	31
Figure 3.1:	Iceberg metaphor	55
Figure 3.2:	Components of knowledge management	60
Figure 3.3:	Knowledge management processes	64
Figure 3.4:	Knowledge conversion in the Nonaka-Takeuchi model	74
Figure 3.5:	Nonaka and Takeuchi's knowledge spiral	75
Figure 3.6:	Boisot's I-Space model	77
Figure 3.7:	Frid's knowledge management model	82
Figure 3.8:	The 360-degree knowledge management model	83
Figure 3.9:	The framework of the 7-circle model	85
Figure 4.1:	Summarised form of research methods	106
Figure 4.2:	Four types of research design	110
Figure 4.3:	Sampling methods	112
Figure 5.1:	Age category of respondents	128
Figure 5.2:	Highest qualification of respondents	129
Figure 5.3:	Working experience of respondents	130
Figure 5.4:	Job title of respondents	131
Figure 5.5:	Understanding and familiarity with the concept of knowledge management	138
Figure 5.6:	Types of knowledge available in the organisation	140
Figure 5.7:	Responses on knowledge management processes within the SDPs	141
Figure 5.8:	Summary of knowledge management processes responses	142
Figure 5.9:	Responses on knowledge management leadership within the SDPs	143
Figure 5.10:	Summary of knowledge management leadership responses	144

Figure 5.11:	Responses to knowledge management culture	145
Figure 5.12:	Summary of knowledge management culture responses	146
Figure 5.13:	Responses to KM technology	147
Figure 5.14:	Summary of knowledge management technology responses	148
Figure 5.15:	Responses to KM measurement	149
Figure 5.16:	Summary of knowledge management measurement responses	150
Figure 5.17:	Responses to drivers of KM	152
Figure 5.18:	Summary for drivers for knowledge management	153
Figure 5.19:	Systems tools used to facilitate effective communication and collaboration among staff	155
Figure 5.20:	Summary of systems tools	156
Figure 5.21:	Responses to specifications of the KM system	157
Figure 5.22:	Specifications of the KM system	158
Figure 5.23:	Responses to knowledge management barriers and challenges	159
Figure 5.24:	Knowledge management barriers and challenges	160
Figure 6.1:	Knowledge management themes	168
Figure 6.2:	Types of knowledge themes	170
Figure 6.3:	Sources of knowledge acquisition	174
Figure 6.4:	Information and communication technology themes	182
Figure 6.5:	Learning and development themes	196
Figure 6.6:	Barriers to knowledge management	202
Figure 7.1:	A framework for the implementation of knowledge management within skills development providers	216

## **LIST OF ABBREVIATIONS AND ACRONYMS**

GDP	Gross Domestic Product
NSF	National Skills Fund
DHET	Department of Higher Education and Training
NDP	National Development Plan
SETA	Sector Education and Training Authority
NSDS	National Skills Development Strategy
SDPs	Skills development providers
HET	Higher Education and Training
KM	Knowledge Management
NQF	National Qualifications Framework
TVET	Technical and Vocational Education and Training
NCV	National Certificate Vocational
SALGA	South African Local Government Association
EIFE	Europe India Foundation for Excellence
VET	Vocational Education and Training
OECD	Organisation for Economic Co-operation and Development
HRSDC	Human Resource and Skills Development Canada
DOL	Department of Labour
DE	Department of Education
VTC	Vocational Training Centres
SSAC	Sector Skills Advisory Committees

MELR	Ministry of Employment and Labour Relations
VTI	Vocational Training Institutes
NVTI	National Vocational Training Institute
ICCES	Integrated Community Centres for Employable Skills
OICs	Opportunities Industrialisation Centres
ILO	International Labour Organisation
COTVET	Council for Technical and Vocational Education and Training
SDA	Skills Development Act
QCTO	Quality Council for Trades and Occupations
SAQA	South African Qualifications Authority
ABET	Adult Basic Education and Training
ROI	Return on Investment
OQSF	Occupational Qualifications Sub-Framework
ETQA	Education and Training Quality Assurance
NSA	National Skills Authority
SARS	South African Revenue Service
ETD	Education Training and Development
HRDSSA	Human Resource Development Strategy for South Africa
KM	Knowledge Management
KMI	Knowledge Management Implementation
KBV	Knowledge-Based View
RBV	Resource-Based View

KMS	Knowledge Management Systems
CMS	Content Management System
DBMS	Database Management System
ICT	Information and Communication Technology
KMM	Knowledge Management Models
SLC	Social Learning Cycle
CSFs	Critical Success Factors
ICT	Information and Communication Technology

# CHAPTER 1

## INTRODUCTION

### 1.1. OVERVIEW

Modern organisations are established in the economy that is frequently characterised as the economy dependent on knowledge (Berek, 2017:53). Industry without knowledge most likely perishes, and knowledge without implementation of that knowledge is valueless (Dang, 2016:47). It has been widely acknowledged that the competitive advantage of organisations in the current economic landscape stems not primarily from the marketplace, but rather from knowledge resources and the manner in which they are communicated. Knowledge is viewed as the core of worldwide economic change and certainly of a nation (Unger, 2019). In a space of active and discontinuous change, firms are continually searching for approaches to adjust to new environments with the goal that they are established to endure and be prosperous (Lv, Tian, Wei & Xi, 2018).

Skills development providers (SDPs) are viewed as knowledge intensive, and knowledge generating organisations within the knowledge-enterprise field. These enterprises novel insights via research activities, and distribute knowledge by means of training and development programmes (Ramjeawon & Rowley, 2017:2). Knowledge has been perceived as a significant foundation of competitive benefit and creating value, as a vital element in the improvement of active essential skills also, mostly, as a contributing factor for organisations with international aspirations. Furthermore, the knowledge that organisations obtain is a powerful asset that should be supported and supervised cautiously (Farzin, Kahreh, Hesan & Khalouei, 2014:595). Davenport and Prusak (1998), as cited by Ogunseye, Adetiloye, Idowu, Folorunso, and Akinwale (2011:254), describe knowledge as a “fluid mixture of experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information.” The authors additionally contend that the emergence of knowledge and its functionality is within the individuals’ brains. Within the organisational setting, it gets installed in official documentation and databases, in business schedules, in procedures, practices, and standards (Ogunseye *et al.*, 2011:254). There is a considerably dissimilar description provided by Ioannis and Belias (2020:40). The authors consider knowledge as a “justified personal belief” thereby expands individual's capacity for action.

The recognition of knowledge as a crucial element of business operations has acquired significance lately in the competitive setting of organisations. Businesses put forth an attempt to take valid and on time benefit of their knowledge assets and backgrounds. This methodology has formed into another idea called knowledge management (KM) (Karami, Alvani, Zare & Kheirandhish, 2015:182). Knowledge management has evolved into the most significant and difficult matter of organisational strategy execution in the new economy (Ede, 2018:265). Organisations find themselves in a period where the ability to rationally utilise knowledge fundamentally decides what is to come. Knowledge management is intended to introduce methodology, procedure, and innovation to increase organisational learning and performance (Akram, Goraya, Malik & Aljarallah, 2018:4). Knowledge management is the deliberate and methodical administration of knowledge including related procedures and instruments with the objective of acknowledging completely the capability of using knowledge for operational conclusions, tackling challenges, encouraging innovations or creativeness, and accomplishing competitive edge (Tan, Carrillo & Anumba, 2012:339).

Knowledge management frameworks are implemented in organisations with the presumption that the outcome will be an expansion in organisational efficiency, effectiveness, and competitiveness. Knowledge management practices are specifically context-oriented and can impact organisational viability (FaChrzin *et al.*, 2014:595). Knowledge management can be implemented by skills development providers to increase a progressively extensive, integrative, and reflexive comprehension of the effect of information on their environment (Petrides & Nguyen, 2006:21). The implementation of knowledge is the basic degree of knowledge management. Competitive benefit exists in the implementation of knowledge management, as opposed to in the information itself (Pinto, 2012:2081).

## **1.2. BACKGROUND TO THE STUDY**

Global research on skills development strengthens the practice which South Africa requires in considering the significance of education, training and development of skills as a method for establishing an empowering field for the nation to create work environment competency and encourage development for the nation (Aigbavboa, Oke & Mokasha, 2016:53). South Africa contributes an enormous share of its national spending plan towards education and training. Nearly 1.5% of our gross domestic product (GDP) is contributed towards education and training after school, the greater part of which is acquired by vocational colleges and the National Skills Fund (NSF) (Department of Higher Education and Training (DHET), 2018).

Skills development has a basic task to carry out, in building the socio-economic success steadiness for South Africa in offering additional opportunities in training and development, specialised trades and business skills, which are really required by the economy (Jackson, 2016). Skills development is crucial element for the South African policy landscape in recent decades. Part of the initial legislation passed by the first democratically elected parliament concentrated on education, training and the total revamping of the structure. The National Development Plan (NDP) locates education and training as focal highlights of the policy to accelerate development within South Africa and amends the past legacies (Wedekind, 2013:37).

The primary objective of this investigation was to ascertain the nature and the involvement of SDPs within the North West Province. The province constitutes almost 9.5% of South Africa's population as it consists of an estimated 3.5 million residents (Makhubela, 2017:7) The North West is the smallest province in South Africa in terms of population size (Statistics South Africa, 2016). The province is challenged by skills shortages like any other provinces in the country (Mateus, Allen-Ile & Iwu, 2014:64). Skills development is a main priority for the North West Province as a fundamental part of inclusive goals of poverty alleviation, growing jobs opportunities, improving economic progress and enhancing its skills effectiveness (Aigbavboa *et al.*, 2016:54). Currently, skills development providers need to concentrate on the most proficient method to upgrade the trainees' skills and abilities for adjusting in work environment requirements; altering the landscape of work to intensify the necessity for twenty-first century skills preparation by these enterprises (Charlse & Nawe, 2017:51).

Skills development providers within South Africa are regulated via the Sector Education and Training Authorities (SETAs), these authorities are essentially established organisations that presently has not yet cultivated the capability to foster the enhancement of skills (Tshilongamulenzhe, 2015:226). The author further outlines that there are about 21 established SETAs within South Africa presently, respectively each SETA is liable in the execution of National Skills Development Strategy (NSDS) in its own occupation segment (Tshilongamulenzhe, 2015:226). Skills development providers demonstrate a substantial impact in the economy driven by knowledge. As learning enterprises, SDPs have the option to expand knowledge abilities, produce top quality trainees, improve creativity and innovation, and collaborate viably towards knowledge creation and the development of intellectual property (Cunningham, Theilacker, Gahan, Callan & Rainnie, 2016:1).

The administration and management part of skills development providers amidst the skills revolution is of interest within the research on skills development. The skills arena is an intricate, cruel, challenging atmosphere that is affected by domestic criticisms, worldwide patterns and commitments, lifelong learning values, human resource investments and viable training standards (Bisschoff & Govender, 2004:70). Skills development providers assume an essential part in the skills development of any nation. Accordingly, efforts ought to be actualised that can offer assistance to skills development providers in better executing their activities and improving budgetary outcomes (DHET, 2019). One of these efforts in the development of the framework for implementation of knowledge management within skills development providers within the North West Province.

### **1.3. PROBLEM STATEMENT**

Knowledge management has been considered to a vital element in enhancing flexibility and achieving competitive advantage. However, little research is undertaken investigating the implementation of knowledge management in the skills development industry (Huang & Lai, 2014:79). While there is significant number of studies on the implementation of knowledge management in the institutions of Higher Education and Training within the developed economies, very little is found in the skills development providers (Chong, Salleh, Ahmad & Sharifuddin, 2011:498). The present collection of empirical research and theory reveals that there are few studies conducted on the features on the implementation of knowledge management that had been conducted within skills development providers (Shakerian, Dehnavi & Shateri, 2016:178; Cheng, Wu & Hu, 2017:177; Ghasemi & Valmohammadi, 2018:1874). Even though there are several studies on the concept knowledge management within higher education and training sector of developed countries, very little is discovered within the skills development sector particularly in the developing country like South Africa (Alksasbeh, Al-Dala & Alqaraleh, 2018:249; Hakiman, Munadi & Ernawati, 2019:266).

This challenge could be as a result of the deficiency of understanding between management and employees of organisations on the significance of a framework for the implementation of knowledge management to enhance organisational performance (Intezari, Taskin & Pauleen, 2017:493). The North West Province is subjected to an unwavering encounter of skills shortage. The government of South Africa has given concerns regarding the shortage of skills a substantial consideration through assigning the skills development providers a mandate of socio-economic improvement policy (Tshilongamulenzhe, 2015:225). However, the skills

development providers find it difficult to fulfil their mandate to society as a result of a poor or lacking framework for the implementation of knowledge management (Garrido-Moreno, Lockett, & García-Morales, 2014).

The North West Province, has a crucial need for enhanced skills development. With skills shortages as the main challenge within most industries in the province, skills development providers are compelled to adjust to knowledge management-oriented processes (Oladele & Mudhara, 2016:54). It is understood that the implementation of knowledge management is the method that will enrich the effectiveness and quality of service within these enterprises (Koochang, Paliszkievicz & Goluchowski, 2017:523). The argument is that the implementation of knowledge management could benefit the entire skills development providers in enhancing the products and services quality for the entire business performance; however, it is not clear whether knowledge management is adequately implemented within skills development providers (Nair & Munusami, 2019:5).

Moreover, there is an absence of research revealing applied techniques for the implementation of knowledge management in skills development industry (Asrar-ul-Haq & Anwar, 2016:13). While these organisations are generating and gaining knowledge, there is an absence of a framework for the implementation of knowledge management. This research problem centred on identifying the core organisational factors or components for knowledge management, and the development of the framework for the implementation of knowledge management within skills development providers (Mardani, Nikoosokhan, Moradi & Doustar, 2018:14). Deduced from knowledge management literature, a lacuna exists on studies focused on the skill development sector particularly within the North West Province. From the above assertion, this study is intended in developing a framework for the implementation of knowledge management within skills development providers.

#### **1.4. SIGNIFICANCE OF THE STUDY**

This research is applicable and significant to the skills development sector in the entire South Africa and contributes value, based on its theoretical and empirical contributions. In addition, this study was focused on developing a framework for the implementation of knowledge management for skills development providers to be effective, enhance performance and to achieve their full potential. The key features of competitive advantage in the skills development industry lie in the continuous improvement in service or product innovation and the capacity to take new items to the market rapidly and at less expensive or cost-effective levels (Feng,

Sun, Zhu & Sohal, 2012; Luo & Child, 2015). Institutes of skills development within North West Province and across South Africa, including universities, may profoundly profit from the implementation of knowledge management through the creation and keeping up pertinent databases of knowledge, enhancing access to knowledge, improving the knowledge atmosphere, and appreciating knowledge (Pinto, 2012:2078).

Global experience has demonstrated that, in order to effectively execute skills development programmes, there must be methods for the implementation of knowledge management that guarantee that these programmes keep on meeting the skills needs of employers and society successfully (Tshilongamulenzhe, 2015:225). Although frameworks for the implementation of knowledge management were explored in the literature, this study intended to develop a framework particularly for the skills development sector.

### **1.5. OBJECTIVES OF THE STUDY**

The primary objective of the study was to develop a framework for the implementation of knowledge management within skills development providers in South Africa. From the primary objective the secondary objectives were developed as follows:

- To evaluate the KM processes within the skills development providers.
- To assess the KM enablers at the skills development providers.
- To assess the KM systems at the skills development providers.
- To develop a framework for the implementation of knowledge management within skills development providers.
- To present recommendations and conclusions on the proposed framework for the implementation of knowledge management.

### **1.6. RESEARCH QUESTIONS**

Established from the secondary research objectives, the research questions for the study are as follows:

- What are the KM processes within the skills development providers?
- What are the KM enablers within the skills development providers?

- What are the KM systems at the skills development providers?
- What framework for the implementation of knowledge management within skills development providers can be developed?
- What recommendations and conclusions to be presented on the proposed framework for the implementation of knowledge management?

## **1.7. DEFINING THE KEY TERMINOLOGY**

The main terminology utilised for this study is described below for the purpose of providing understanding on the connotations within their respective contexts and their relevance to this investigation:

### **1.7.1. Skills development**

The Skills Development Act 97 of 1998 defines skills development “as the process through which people are afforded an opportunity to learn further for the improvement of their occupation related skills” (Skills Development Act, 97 of 1998).

### **1.7.2. Skills development provider**

Baumgardt (2013:17) defines a skills development provider as a training provider offering courses and/or certificates that are in accordance with the applicable National Qualifications Framework (NQF) requirements.

### **1.7.3. Knowledge**

Knowledge is a dynamic combination of structured experiences, values, contextual information, and expert insights, serving as a foundation for assessing and assimilating novel experiences and information. Its inception and application occur within the intellectual domains of individuals. Within organisational contexts, knowledge frequently becomes ingrained not solely within documents or repositories but also within organisational routines, processes, practices, and norms (Frost, 2014:1).

### **1.7.4. Knowledge management**

Knowledge management is characterised as a field supporting a comprehensive methodology encompassing the identification, capture, evaluation, retrieval, and dissemination of an organisation's knowledge resources. These resources encompass documents, policies,

databases, procedures, as well as experiences and expertise previously not documented among individual employees (García-Álvarez, 2015:994).

## **1.8. RESEARCH METHODOLOGY**

### **1.8.1. Research paradigm**

The term "paradigm" refers to a shared research culture characterised by a collective set of values, beliefs, and assumptions held by a community of researchers concerning the nature and execution of research (Antwi & Hamza, 2015:218). Several research paradigms exist, such as positivism, interpretivism, critical and pragmatic (Kumatongo & Muzata, 2021:17). However, this study concentrated on the pragmatism and interpretivism paradigms (Quinlan, 2011:13).

### **1.8.2. Research method**

As described by Leedy and Ormrod (2005:12) research methodology is the primary approach undertaken by a researcher in the fulfilment of a research activity. There exist two principal approaches to conducting research, specifically, quantitative and qualitative. Welman *et al.* (2005:193) suggest that quantitative research includes gathering data that is complete, for example numerical information, with the goal that it can be examined in an impartial manner as far as possible.

In contrast, qualitative research constitutes a form of investigation that generates results not reached by methods of numerical processes or different methods of mathematical formulas (Maziriri, 2018:132). For this study, a mixed method was followed, which is a combined research method that comprises components of both quantitative and qualitative research strategies.

### **1.8.3. Research design**

As per Bhattacharjee (2012:21), a research design can be defined as a strategic framework devised to systematically explore and address a specific research question.

The research design establishes explicit parameters for defining the scope of the study, including where the research takes place, what type of investigation will be conducted and what units will be analysed. There are four types of research design, as described by Akhtar (2016:73), i.e. *exploratory*, *descriptive*, *explanatory* and *experimental*. *Exploratory* research aims to formulate a problem for more accurate investigation or hypothesis development. A

*descriptive* study is also known as a statistical study, which describes phenomena in their current form. *Explanatory* research is primarily concerned with the causes or the *why* factor relating to a phenomenon. Comparisons and factors of change are not involved. An *experimental* study is used to test a research design for causal relationships under controlled conditions. A descriptive research design was employed for this study.

#### **1.8.4. Delimitation of study**

The parameters of this investigation were constrained to skills development providers, which exclude the Universities and Technical and Vocational Education and Training (TVET) Colleges, whether providing an extensive or limited array of the skills courses. The primary emphasis of the research revolved around skills development providers offering unit standard-based courses, excluding ministerial programmes such as Report 191 (Nated) and National Certificate Vocational (NCV). All the SDPs should be accredited by the relevant SETA. The respondents or participants were the owners/managers and employees of the skills development providers and the investigation took place within the North West Province of South Africa, also known as the Platinum Province.

The capital city of the Province is called Mafikeng. The North West Province consists of four districts, namely the Ngaka Modiri Molema, Dr Ruth Segomotsi Mompati, Bojanala and Dr Kenneth Kaunda (South African Local Government Association (SALGA), 2017).

### **1.9. RESEARCH PROCESSES**

#### **1.9.1. Population**

The population encompassed within a research investigation can be defined as comprising all individuals or objects (units of analysis) with the characteristics that are being studied (Bhattacharjee, 2012:65). The study's target population was selected from 56 skills development providers situated or operating in the North West Province, as accredited by the various SETA(s) and listed on the database. This included 56 owners or managers and approximately 400 employees.

#### **1.9.2. Sample method and sample size**

Sampling can be arranged into two types; specifically, probability sampling indicates that every element within the population has a recognised, non-zero probability of being incorporated into the sample (Saunders, Lewis & Thornhill, 2009), whereas non-probability sampling refers to

elements within the population lacking an equal likelihood of inclusion in the sample (Welman & Kruger, 2001:46; Levy & Lemeshow, 2008:18). This study made use of convenience sampling under non-probability sampling. This sampling type is very easy to implement and inexpensive to create samples; moreover, it enables for data to be collected within a brief timeframe (Bhardwaj, 2019:161).

The sample size for the quantitative research was aimed at 300 respondents from a population of about 400 employees, as adopted from previous studies on knowledge management that used approximately 150 to 400 respondents (Ghahroudi, Hoshino & Ahmadpoury, 2019:1955; Yang, 2011:18; Ansari, Youshanlouei & Mood, 2012:218).

In the context of a qualitative investigation, purposive sampling was employed as the method of selection in this study, this method constitutes one of the non-probability sampling techniques. The technique is regularly applied in qualitative research as it has the benefit of time and is less expensive to conduct while resulting in a variety of responses from the participants (Babbie, 2008:210). Data saturation guided the determination of the sample size for this section of the study.

### **1.9.3. Data collection instruments**

Quantitative data was collected through the utilisation of a self-administered questionnaire. According to De Vos and Strydom (2011:172), a questionnaire is defined as a compilation of questions presented on a structured document, intended to be filled out by the respondents in relation to a research undertaking. Methods for conducting a survey incorporate personal interviews, telephone surveys, mail surveys, electronic surveys and self-administered questionnaires (Struwig & Stead, 2013:89). The instruments were developed using past research studies focused on the development of a framework for knowledge management (Ahmad, 2011:262, Dei Johnson, 2017:294).

As indicated by Maree (2007:82), there are four categories of qualitative survey methods for data collection, namely observations, interviews, focus groups and documents. This research employed face-to-face interviews with 30 minutes duration, incorporating numerous open-ended questions, occasionally supplemented by probes to guide the discourse and ensure a comprehensive exploration of the subject under investigation (Jennings, 2010:170; Remler & Van Ryzin, 2011:63).

#### **1.9.4. Data collection**

In the context of the quantitative investigation, a self-administered survey instrument was distributed to the owners/managers and employees of the skills development providers within the North West Province. This method was selected because of its cost-effective and ease of administration contrasted with other survey methods. Furthermore, its administration is faster and simpler than other methods are (Malhotra, 2007:138).

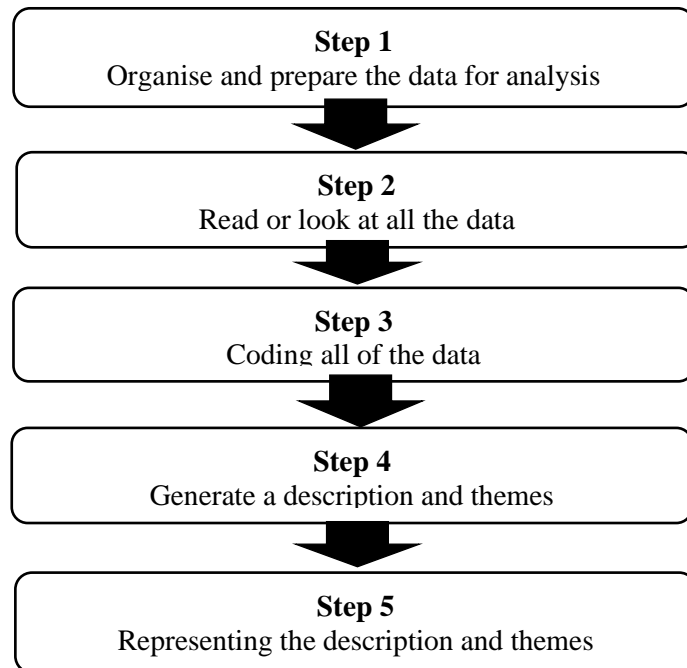
In qualitative investigation, face-to-face interviews were arranged with the different skills development providers. Upon permission being granted by the individual organisations to conduct the study, the researcher visited the organisations to gather data.

#### **1.9.5. Data coding and analysis**

The quantitative data obtained from the administered questionnaires was captured into Microsoft Excel and imported into SPSS 28 software for further processing. The data analysis encompassed various techniques, including descriptive statistics, with the intention of summarising data in the form of simple quantitative measures such as percentages or frequencies (Kaliyadan & Kulkarni, 2019:83).

In qualitative research, data coding entails assigning labels or codes to various sections of text that are linked to various problems (Akinyode & Khan, 2018:166). Qualitative data analysis is a procedure that requires sequential steps to be applied, from the particular to the general, and including various degrees of analysis (Creswell & Creswell, 2018:193). In the course of this investigation, thematic analysis of qualitative data was conducted using the Atlas.ti v. 8.4.5 software program. As per Kiger and Varpio (2020:846), when attempting to understand experiences, opinions, or behaviour patterns across a dataset, thematic analysis is an effective method of analysis. The steps of data analysis in Figure 1.1 were directed as follows:

**Figure 1.1: The steps of data analysis**



#### **1.10. RELIABILITY AND VALIDITY**

Equally quantitative and qualitative studies share the common objective of achieving research reliability. However, the indicator of reliability may vary across these distinct methodological approaches (Neuman, 2014:141). As per Neuman (2014:141), reliability alludes to the dependability or consistency of measurement instrument. The general consistency of a measurement scale is regarded as the reliability. In the event that a measure produces comparable outcomes under consistent conditions, it is considered profoundly reliable (Struwig & Stead, 2013:138). One of the measures of internal consistency is the Cronbach alpha coefficient. Scores above 0.7 are considered reliable (Struwig & Stead, 2013:138). The research employed Cronbach's alpha as a standard for assessing reliability.

The concept of validity pertains to the credibility associated with aligning a construct or conceptual description with a specific measurement (Neuman, 2014:141). The assessment of a measuring instrument's validity revolves around the extent to which the instrument accurately measures the intended construct it is designed to measure. The determination of validity involved the assessment of whether the individual scores obtained from an instrument held significance, enabling the researcher to derive sound conclusions from the sample population under study. Validity was tested through content, construct, convergent and discriminant validity.

### **1.11. TRUSTWORTHINESS**

Creswell and Poth (2017) posited that the extent to which a reader can evaluate the appropriateness of the research methods employed for the study's stated objectives plays a pivotal role in establishing the trustworthiness of the study. Saunders and Lewis (2012) affirm that oversight of the research's credibility, transferability, dependability, and confirmability features may verify a research question.

### **1.12. ETHICAL CONSIDERATIONS**

Punch (2014:36) provides a definition for research ethics, characterising it as "a branch of applied ethics focused on the specific contexts of planning, conduction, communicating, and following up research". The ethical considerations in research pertain to two distinct groups: those engaged in conducting the research, who bear the responsibility of understanding their obligations and duties, and the respondents, who possess essential rights that warrant protection. Ethics, within the context of philosophy, concern themselves with guiding individuals on how to navigate concepts of right and wrong (Fieser & Pojman 2012:1). Put differently, ethics encompass values and rules that elucidate the conditions under which research is to be carried out (Oates, Kwiatkowski & Coulthard 2010:4).

This investigation adhered to the ethical norms inherent in scholarly research, encompassing, among other considerations, the safeguarding of the identities and interests of participants and respondents, all the while ensuring the confidentiality of data supplied by these individuals. Furthermore, explicit guidelines were communicated to owners or managers, and employees, explaining that engagement in this study is strictly voluntary, with respondents under no obligation to participate.

### **1.13. STRUCTURE OF THE THESIS**

#### **Chapter 1: Introduction, background, and problem statement**

This chapter provides an introduction and background to this study and consists of the problem statement, research objectives, questions, significance of the study, research methodology, reliability and validity, as well as the ethical considerations followed.

## **Chapter 2: Overview of skills development and skills development providers**

In this chapter, the focus is on the overview of skills development and skills development providers. The attention is on the skills development concept within the international and South African context.

## **Chapter 3: Knowledge management literature review**

Chapter 3 offers a critical literature review on knowledge management concepts and theories. The knowledge management enablers, systems, and models followed for frameworks for the implementation of knowledge management are also discussed in this chapter.

## **Chapter 4: Research methodology**

Chapter 4 presents the research design and methodology employed. The study adopted mixed-method research. Data collection methods, reliability, validity and ethical consideration were also articulated.

## **Chapter 5: Quantitative data analysis and interpretation of the results**

Chapter 5 describes and analyses the findings obtained during the quantitative data collection process and thereby presents the results.

## **Chapter 6: Qualitative data analysis and interpretation of the results**

Chapter 6 articulated the discussion and interpretation the findings obtained during the qualitative data gathering process and its results.

## **Chapter 7: Proposed framework for the implementation of knowledge management within Skills development providers**

Chapter 7 presents the integration of quantitative and qualitative results together with the proposed framework for the implementation of knowledge management within skills development providers, which could be utilised for managing knowledge successfully.

## **Chapter 8: Conclusions, recommendations and future research**

Chapter 8 provides the conclusions of the study based on the research findings, and suggests recommendations emanating from the results of the study. This chapter also outlines the further research areas.

#### **1.14. CHAPTER SUMMARY**

The primary objective of this chapter was to describe the introduction and background of the study. Following sections within this chapter clarified the problem statement, explained the significance of the study, and outlined the research objectives and questions. Furthermore, the definition of key concepts, research methodology and research process were described. In addition, the issues regarding reliability, validity, trustworthiness and ethical considerations were explained. In conclusion, this chapter has presented the outline of the thesis alongside describing the limitations inherent in the study. Subsequently, Chapter 2 was dedicated in discussing the literature pertinent to an in-depth exploration of skills development and the skills development providers.

## **CHAPTER 2**

### **OVERVIEW OF SKILLS DEVELOPMENT AND SKILLS DEVELOPMENT PROVIDERS**

#### **2.1. CHAPTER OVERVIEW**

The preceding chapter contextualised the problem statement, objectives, and research questions pertinent to this study, with the aim of furnishing a comprehensive framework for the implementation of knowledge management within skills development providers (SDPs). In this section, a comprehensive examination of skills development and skills development providers, were explored in the international viewpoint on skills development, and explained upon the context of skills development specifically in South Africa, followed by the skills development definitions and processes that occur within its lifecycle. Secondly, the definition and responsibilities of a skills development provider were described, including the programmes offered by the skills development provider. Thirdly, the regulatory bodies within skills development were detailed. Lastly, the accreditation process and legislation applicable to the skill development providers were explained as well as the national skills development strategy.

#### **2.2. SKILLS DEVELOPMENT OVERVIEW**

Skills have been 21st century economies' universal currency. Skills, in the comprehensive sense, indicate what a person knows and understands and can do. The acquisition of skills occurs through both non-formal and informal learning throughout all stages of formal education and training. These skills are cultivated prior to individuals entering the labour market and continue to develop throughout their professional careers (Kennedy, Latham & Jacinto, 2015). On the contrary, skills development, is a mechanism by which workers within the company learn skills about their current roles and train personnel to take new and potential duties to increase the efficiency and quantity of their employment (Shayamano, 2017:20). Skills development is an organisational tool intended to help workers gain their expertise, experience and attitude required for a competitive worker to maximise current and potential efficiency (Rao, 2000).

Skills development is a dynamic concept, which is described and discussed by most authors, while others examine the logical and socio-cultural influences that affect it (Aigbavboa, Oke & Mokasha, 2016:53). The definition of skills development is non-discriminatory in terms of age, condition, lifestyle, learning form, education environment and training standard, as

specified by the European Commission (2012:12). Skills development is viewed internationally as the entryway to effective work. It therefore represents an important means of growing production, improving the public and private sectors, including economic development, and reducing poverty (Brewer, 2013:2).

Higher Education and Training Minister Dr BE Nzimande alluded that, in order to attain substantial economic growth and effectively tackle the prevailing social issues of poverty and inequality within our nation, collaborative efforts are imperative. It is compulsory upon us to collectively channel resources into education, training, and skills development, thereby realising our envisioned goal of fostering a proficient and skilled workforce. This concerted approach is integral to paving the way for an inclusive trajectory of growth. The Minister frames skills development into specific priorities, which means that skill development is the desired outcome of training and education programmes and should promote progress (D'Souza, 2018:39).

As per Allais (2012:634), skills development often applies to occupational education and job-based training systems such as apprenticeships or shorter work environment training courses, but also applies to all workplace-oriented employment and training. Hobo (2016:64) also denotes skills development to any programme intended to help workers learn expertise or abilities or to alter their approach or conduct habits that will not only boost their present work performance, but often also opens up incentives for workers to step upwards from one rank to a different stage in order to meet corporate targets (Hobo, 2016:64). For this study, it is very essential to comprehend the overview of skills development to have a thorough comprehension to develop a framework for the implementation of knowledge management within skills development providers.

### **2.3. INTERNATIONAL PERSPECTIVES ON SKILLS DEVELOPMENT**

Most nations and organisations globally have adopted skills development systems to succeed against others. The goal of these initiatives is to provide sufficient human resources, capable of adapting to the changing world (Kuhlengisa, 2018:13). Skills development is pivotal in fostering the effective and conscientious advancement of human resources, productivity and sustainable economic growth and development (Chams & García-Blandón, 2019:109).

Global analysis shows that nations that have managed to link the skills development to improve production, jobs and growth are focused on skills development, with three key objectives (International Labour Office, 2010:18):

- matching supply for existing skills demand;
- allowing employees and businesses to respond to change; and
- improving and enhancing skills for future labour market demands.

It is important to view the skills development sector within other contexts to understand the structure in South Africa as well. Therefore, the present section reviews the current literature on skills development in other countries and offers a short summary on skills development in many Asian, European, Western and African countries, in particular. These international cases, which may give insight into the situation in South Africa, were chosen because the core issues of skills development are illuminated.

### **2.3.1. Asian context**

Skills development is crucial to Asian countries' sustainable development agenda (Kraak, Jewison, Pillay, Chidi, Bhagwan, Nomvete & Engelbrecht, 2013:29). Skills development strategies are increasingly being central to Asian countries' economic development goals. As countries move to boost their productivity and job prospects in world markets, it is vital to build and deliver effective skills policy structures to attain inclusive and equitable development (Jagannathan, 2012:43).

The economies of Asia are among the world's most diverse sectors. Due to Asia's rapid progress, many countries are in dire need of skills (Kinda, 2019). These nations are confronted with mutual challenges in developing skills infrastructure to establish a quality provider training sector, minimise skill mismatches, strengthen ties between training and business needs, update obsolete training programmes and increase industry involvement (Martinez-Fernandez & Choi, 2012:36). The strategies and policies of most Asian countries have a significant structure with an emphasis on creating a highly skilled labour force. A variety of changes involve skilled labour and higher levels of educational achievement, particularly in the sense of globalisation and technological development (Jagannathan, 2012:43).

In the case of Japan, major developments in both economic progress and the human capital advancement are certainly attributed to skills development policies implemented by the country since the programmes were initiated in the 1950s (Mncwabe, 2013:40). In Japan, the primary

objective of these skills development programs is to furnish career seekers with fundamental skills. Additionally, they aim to offer training opportunities for recent school graduates and individuals undergoing job transitions, either due to job loss or anticipated career changes. However, as Mncwabe (2013:40) observed, upon attaining the phase of swift expansion and advancing manufacturing technology, the Japanese economy witnessed notable progress, there was a lack of skill development for staff. That inspired a reform to the 1969 revised Vocational Training Legislation to provide consistency in Japan's skills development programmes. The resultant outcome entailed the enactment of the Human Resources Development Promotion Law. In essence, Japanese law respects the growth and advancement of staff to be properly prepared to do their work (Mncwabe, 2013:40).

As a pivotal catalyst for the economic advancement within the region, Korea's skills development policy has been highlighted (Sun Ra, 2009:2). The Korean situation gives a clear example of the government's successful role in improving employees' skills. South Korea is renowned for establishing a government-driven skills development system aimed at securing a proficient workforce for the industrial sector and safeguarding marginalised parts of the population. This strategic approach highlights the nation's commitment to fostering socio-economic stability through targeted educational and vocational initiatives. For three factors, governmental involvement in skills development at an early stage in the industrialisation of Korea was necessary (Sun Ra, 2009:3). Firstly, at the time of rapid industrialisation in Korea, worker mobility was frequent. Instead of educating their own employees, companies conducted *freeriding and poaching* of the workers trained by others. Secondly, from rural to urban areas, a large unskilled population started to migrate. The related gaps between the national population in job rates and ability levels were substantial and were expressed in individual productivity and pay inequalities (Sun Ra, 2009:3). The government then wanted to increase work growth and competitiveness by training provision to address the disparity in jobs and income distribution. Thirdly, government involvement was important because if skills development were left to the free market, the need for potential qualified labour would not be fulfilled (Sun Ra, 2009:3). In Korea, for example, the need for a highly skilled workforce has been growing since the early 1990s. Enterprises started to indicate that high skills demand could not be fulfilled by the government-driven vocational training programme (Sun Ra, 2009:4). There was an argument, however, that the government sought to compel and control private enterprise education and training on the basis that a government-led strategy would help address business failure (Sun Ra, 2009:4).

Important socio-economic factors like unemployment and poverty in developed countries such as India have generated an urgent need for new ways of skills development to fulfil economic and social needs. In this context, the phenomena of globalisation, the dominance of the younger generation, and technological advancements each contribute significantly to the dynamics at play (Europe India Foundation for Excellence (EIFE), 2019). As India advances rapidly towards being an information economy, it then becomes critically important for a country to concentrate on skills development and these skills must be applicable to the developing economic climate (D'Souza, 2018:2). Acknowledging the need for skill development in India, skill development projects were initiated in 2009 and 2014, the Indian government officially announced the creation of the Department of Skill Development and Entrepreneurship, aiming to facilitate the coordination of various stakeholders involved in the domain of skill development and entrepreneurship. This pivotal step subsequently paved the way for the inception of the Ministry of Skill Development, strategically designed to significantly amplify the scope and impact of skills development programs across the nation. The goal is to create a strong environment for skills development and entrepreneurship through advocacy and promotion, access to training, content of entrepreneurship and best practices (D'Souza, 2018:4).

China provides the largest structure of Vocational Education and Training (VET) across the world's skills development policies. Indeed, within China's VET system, numerous strengths are evident; traditionally, expenditures on skills development have been significantly lower than expenses on academic education, but this is changing, and costs have increased significantly (Stewart, 2015:17). More than 30 policy measures to promote skills development by higher vocational education have been adopted by China. The structural basis, policy rationale and general guidelines for the growth of skills in the country have worked as policy initiatives (Fan, 2020:180). Henceforth, China's higher vocational education has successfully fulfilled its policy objectives over a span of two decades. Serving as a pivotal element within the higher education system, it has emerged as a primary contributor of skilled and hands-on personnel, thereby playing a substantial role in facilitating China's transition towards the massification of higher education (Fan, 2020:180).

The administration of Vocational Education and Training in China is characterised by complexity. It predominantly falls under the purview of two key ministries: the Ministry of Education, which focuses on occupational and technical education, and the Ministry of Human Resources and Social Security, specialising in vocational skills training. However, various

other governmental entities also play a role in the oversight of this system (Stewart, 2015:16). Vocational Education and Training (VET) is divided between the Department of Higher Education and the Department of Vocational and Adult Education within the Ministry of Education. The Central Institute for Vocational and Technical Education, affiliated with the Ministry of Education, offers policy guidance to the Ministry. Additionally, the Department of Occupational Capacity Building, operating under the Ministry of Human Resources and Social Security, oversees the administration of VET programs in technical colleges and skilled worker schools (Stewart, 2015:16). They are also responsible for the formulation of requirements for occupational skills, the assessment of skill credentials and the issuance of occupational licenses. They work with the Department of Employment Promotion to run training services for short-term skills in career centres across the world. In 2004, the inter-ministerial structure was set up by the Chinese Government to strive to better integrate the efforts of the seven VET ministries: The Ministry of Education, the National Development and Reform Commission, the Ministry of Finance, the Ministry of Labour, the Ministry of Personnel, the Ministry of Agriculture and the Poverty Alleviation Office (Stewart, 2015:16).

### **2.3.2. European context**

Europe is a global leader in skills development, and through Commerce, Technology and Data Science (Europe India Foundation for Excellence (EIFE), 2019), European countries make up more than 80% of the cutting-edge group worldwide. In the global skills development index ranking index, each of the 24 European countries occupy top positions worldwide (Cinque, 2016:390). This advanced level of skills is likely to be the product of strong structural spending by Europe in education through workforce growth and public education initiatives. Skill success in Europe also varies; Eastern European nations with less economic prosperity are not performing as well as compared to Western Europe (EIFE, 2019). Skills development is one of the four core fields of the flagship programme of the European Union, the subject of the new skills and new jobs, and the focus of the more recent rethinking education approach (Cinque, 2016:391).

Germany is one of the European countries in which the conventional aspect of the skills development framework is learning at work. The aim of all vocational training is to impart thorough technical skills in the occupation. Skills development in Germany is driven not only by labour market conditions, but also by the need for individuals to learn skills, expertise and competencies that allow them to prove themselves effectively in the labour market. Training

strategies are founded on the idea that they should be as wide, precise and appropriate as possible (Hippach-Schneider, Krause & Woll, 2007:1). For instance, there is indeed a long tradition in Germany of institutional arrangements among social partners, accompanied by regulations on skills development initiatives. This takes the form of employment councils in all large industries in Germany. Agreements include investment, skills development, and jobs in the long run. Skills development is part of a larger series of arrangements where the development of skills promotes the broader policy (Kraak *et al.*, 2013:27).

For several businesses, German skills development is a significant road to skilled employment and also a key part in the development of the workforce. The central feature of qualifying young people in an apprenticeship programme is to virtually offer the qualification, but it still opens formalised advancement to further training (Deissinger, 2015:557). There exist various historical and cultural justifications for designating it as the focal point of vocational education and training within the Federal Republic. Given the efforts of several nations, especially in Southern Europe, to integrate similar frameworks of formal apprenticeships culminating in initial vocational qualifications, Germany has garnered substantial attention (Deissinger, 2015:564).

In the United Kingdom, the government undertakes to enhance workforce skills and foster the advancement of lifelong learning activities through a variety of organisations and programs (Aguinis & Kraiger, 2009:460). The significance of employment and productivity is widely recognised in fostering the economic advancement of the United Kingdom. Concurrently, skill development is deemed crucial for the enhancement of skills in both the private and public sectors (Aguinis & Kraiger, 2009:460). Therefore, rising skill levels as a way of reaching higher levels of employment, efficiency and success have been the fundamental logic of skills policies in the United Kingdom. While the pursuit of enhancing skills to transition the United Kingdom into a highly skilled economy has been a focal point of governmental policy, the formidable challenge persists in the face of significant shifts in the skills landscape of the nation (Green & Martinez-Solano, 2011:16).

In recent times, the UK has made considerable strides in improving skills development and economic outcomes. The skills of young people have increased and are now above the level of the Organisation for Economic Co-operation and Development (OECD) in terms of schooling, skills, and the proportion of tertiary education in the workforce (Organisation for Economic Co-operation and Development (OECD, 2020:4). The participation rate in skills growth in

Russia is surprisingly poor and training is mostly obtained within a few professions, which leads to a substantial criticism of the ideology of the knowledge economy theory (Anikin, 2018:32).

The landscape of higher education providers engaged in the field of ongoing skills development within the Russian market has undergone a substantial transformation (Borisova, Vasbieva, Malykh, Vasnev & Vasneva, 2016:70). In accordance with the legislation outlined in the *Federal Law On Education in the Russian Federation*, the framework for the contemporary education system within the Russian Federation was instituted. The distinctive feature of this situation lies in the lack of autonomy within continuing vocational education and training (Borisova *et al.*, 2016:70). Educational establishments across various levels of professional expertise have the capability to provide such programs. Certain secondary technical schools and higher education institutions currently offer dedicated services for career development and retraining (Borisova *et al.*, 2016:70).

Portugal has centred education and skills development at the forefront of the political agenda for many years (OECD, 2018). The need for multifaceted reforms in Portugal has been illustrated by the outcome of the first phase of the OECD-Portugal National Skills Strategy (NSS) programme. This work, which included a wide variety of state, private and non-profit sector stakeholders, culminated in 2015. Twelve skills challenges were described in four areas: growth, activation and usage of skills and enhancement of the skills framework (OECD, 2018). Skills development is not all that counts. The need for skills, and whether the nation's fabric of a nation can accommodate skilled professionals and successfully employ their skills, is just as important. In Portugal, which remains one of the European countries with the highest numbers of tertiary-educated emigrants, this is a problem (11.4% in 2014, according to data from the Ministry of Science, Technology and Higher Education). Moreover, many employers identified a comparatively low demand for high-level skills in many areas of the country during the programme, with the exception of particular sectors well-integrated into the global economy (OECD, 2018).

### **2.3.3. Western context**

In the context of Canada, the strategy for skills development stands out through a diverse and extensive industry dedicated to skills development. This industry comprises a mix of small enterprises, consultancy firms, as well as public and private sector organisations, collectively offering a broad range of services to both domestic and international clients (Wilson, Tarjani

& Rihova, 2016:107). Canada serves as a notable illustration of an emerging economy wherein the cultivation of human capital has garnered considerable attention from a numerous of skills development providers through the exchange of expertise. Various factors influence activities aimed at skills development in the Canadian context (Wilson *et al.*, 2016:107).

It reflects that, for many Canadians, for a substantial number of Canadians, the concept of lifelong learning has evolved into a contemporary actuality. This emphasises the imperative for individuals to enhance their skills continuously, ensuring ongoing training and staying abreast of developments (Harwood, 2012:79). In general, Human Resource and Skills Development Canada (HRSDC) coordinates a variety of skills development programmes, with several tailored programmes serving groups of the community, such as young people, indigenous people, older workers, refugees and people with disabilities. The primary objective is to cultivate a proficient, skilled, and adaptable workforce through the implementation of strategies that empower both organisations and individuals to prosper in the current economic landscape and equip them for forthcoming employment opportunities (Human Resource and Skills Development Canada (HRSDC), 2009). During the 1980s, following the federal government's decision to delegate the implementation of various training services to provinces and regions, a substantial reform transpired in the mission of HRSDC (Prince, 2016:3).

In Latin American countries, a large and diverse area of more than 600 million inhabitants has been marked by varying economic growth rates, inadequate skills development, and high levels of income inequality. The end of a decade-long period of growth led by high commodity prices suggests that Latin American countries now face the task of improving competitiveness as a source of sustained long-term growth through skills development. Therefore, it is not shocking that states, corporations and the media are continually focused on the problem of skills development in Latin America (Fiszbein, Cosentino & Cumsille, 2016:1).

There has been a striking increase in the education levels of the people of Latin America in the past 20 years. However, many Latin American countries with a higher share of low-skilled adults and a smaller share of medium-skilled and high-skilled adults are also far from the overall level of fulfilment for OECD member countries. In about half of Latin American nations, the majority of adults constitute the low-skilled workforce (Fiszbein *et al.*, 2016:2).

It may be concluded that the skills development system of United States of America is positive, considering the phenomenal success of the US economy, and the fact that it has the world's highest level of job productivity. There is a widespread belief, though, that the current

framework for the skills development in the US is failing (Bartik & Hollenbeck, 2000). For some classes of the population, high unemployment rates and employer worries about the productivity of entry-level jobs indicate that the new arrangement could be neither competitive nor fair. One function of public policy is to recognise this contradiction and try to optimise the mechanism of improving skills, where possible, while preserving competitiveness for world-class jobs and economic development (Bartik & Hollenbeck, 2000).

A combination of public and private schooling and training agencies within United States constitute the skills development system. The first-chance or traditional method encourages citizens to go into a comprehensive public primary, intermediate, and post-secondary education sector that is complemented by private school establishments and is supplemented by career preparation and employment experience provided by employers. In their educational opportunities, individuals spend time and effort and develop general knowledge and skills that help them to seek jobs and professions (Jacobs, 2013:2). They then obtain jobs, from which, through career preparation and work experience, they develop special skills. Of course, the career journeys of people are typically not linear; they pause and re-start their education and change jobs and professions as personal desires and prospects change (Bartik & Hollenbeck, 2000).

The private sector in the United States plays a significant part in skills development, but many of these initiatives are directed at employees who already have existing skills and better jobs. In improving the skills of the poor and disadvantaged, the federal government assumes a crucial and pivotal role, financing several large projects through the Department of Labour (DOL) and the Department of Education (DE) (Greenstone & Looney, 2011:6).

#### **2.3.4. African context**

A detailed study of modern businesses of all sizes in African countries showed that firms have consistently cited inadequate skilled labour as an issue. From the perspective of the company, this is critical because industrial productivity is vulnerable to subtle shifts in the scarcest input factors (Johanson & Adams, 2004:16). Low levels of schooling and skills development in the labour force in the organised sector of African economies will seriously limit labour market stability. If enterprises are unable to find plentiful and adaptive skilled workers, they are unable to adjust to the opportunities provided by emerging technology (Johanson & Adams, 2004:16).

Without an explicit analysis of the topic of skills and human resources, Africa's multi-faceted skills development issues would be difficult to solve. This ability's vulnerability and its detrimental consequences present themselves in many concrete forms (Ansu & Tan, 2008:3). Africa suffers from crippling shortages of human capital and skills, considering the considerable resources invested in tertiary and technical education. The difference in sub-Saharan Africa is much more pronounced. Similarly, in other countries, Africans spend less time on skills development (African Development Bank Group, 2011:101).

In the case of Egypt, a vast number of ministries (17 in total) provide skills development programmes for different focus groups unique to their industries, aside from the Ministry of Education. This system of training is frequently related with Vocational Training Centres (VTCs) (OECD, 2015:41). The length of skills development programmes varies from one month to two years of training and is usually technical in nature while centre based. In general, longer programmes are targeted at skilled employees, whereas shorter programmes are meant for the upgrading of semi-skilled jobs. Although target groups differ, delivery sometimes overlaps, but there are no universal guidelines for preparation or qualification criteria (OECD, 2015:41). In collaboration with international training and education organisations globally approved qualifications are awarded. Private companies are gradually developing their own in-company training units. Community-based educational centres provide skills development services to improve opportunities for women, the unemployed and the disabled (OECD, 2015:41). Given the poor external and internal productivity often attributed to the Egyptian TVET system, it can be argued that Egypt's phenomenal rise in skills development in recent decades has had less to do with rational planning to provide work-relevant skills for young people and more to do with redirecting students away from higher education (OECD, 2015:220).

In Kenya, skills development programmes are currently carried out in silos and are regulated by separate legislative structures, laws, and administrative resources. The skills ecosystem is presently marked by needless repetition and inconsistency in the separate structures overseeing the respective departments of government and organisations that lead to skills development. The policies are carried out in silos, in conflict with each other in some ways, and without regard to labour market intelligence (National Skills Development Policy (NSDP), 2020:6). Vision 2030 and the Big 4 Agenda have identified skills development and educational achievement as core drivers of employability and the eradication of poverty in Kenya. Sustained socio-economic prosperity and stability in the world relies on equal opportunities for

individuals to engage in skills development and to make successful use of their skills. The skills environment of the country focuses on forecasting how the need for skills would change and the readiness to be reactive (NSDP, 2020:6). Kenya is actively designing and adopting, based on the training industry, a robust and effective framework for skills development. Via their respective Sector Skills Advisory Committees (SSAC), the industry will deliver occupational standards. This structure seeks to get all the actors in its leadership on board. Through the State Department for Post Skills development, the Ministry of Education is required to establish an overall national strategy for the development of a sustainable framework of skills development (NSDP, 2020:6).

In Ghana there is a systematic white-collar production of skills development (formal and informal), and various ministries, whether for-profit or non-profit organisation, in the private sector, non-government organisations, and informal apprenticeships are responsible for delivering programmes (Baah-Boateng & Baffour-Awuah, 2015:7-8). Additionally, the primary source of public formal TVETs is the provision of education and training under the Ministry of Employment and Labour Relations (MELR). The Ministry manages three categories of institutions: Vocational Training Institutes (VTIs) of the National Vocational Training Institute (NVTI), 34 centres; Integrated Community Centres for Employable Skills (ICCES), sixty-three centres; and Opportunities Industrialisation Centres (OICs), three centres (International Labour Organisation (ILO), 2020:22). According to the International Labour Organisation (ILO), (2020:36) Ghana's skills development structure is also marked by disintegration, pending continuing changes. The system of skills development is regulated by the 1970 National Vocational Training Institute Act (no. 351) and the 1978 National Vocational Training Board Regulations (LI 1151), which are enforced in tandem with the occupational qualifications and curricula established over recent years by the Council for Technical and Vocational Education and Training (COTVET). The National TVET Qualifications System (NTVETQF) is overseen by the Council for Technical and Vocational Education and Training (COTVET) and is responsible for the accreditation of private and public skills development providers. As of March 2019, COTVET had accredited skills development providers to offer training centred on NTVETQF for one or more certificates. The National TVET Qualifications System defines TVET qualifications and categorises them on the grounds of what learners are supposed to know, comprehend, and be expected to do at various levels of competence (International Labour Organisation (ILO), 2020:36).

### **2.3.5. South African context**

Industry training, Technical and Vocational Education and Training (TVET) institutions, Sector Education and Training Authority (SETA) and Quality Assurance agencies are part of skills development framework in South Africa. All other agencies are responsible to the Department of Higher Education and Training (DHET), except for Industry Training (Lolwana, Ngcwangu, Jacinto, Millenaar & Martín, 2015:21). However, it can be realised that as cohesion is absent in the structure, the DHET entities function differently. Following the attainment of independence in 1994, South Africa has achieved significant progress in grappling with the repercussions of its historical experiences in skills development. Notwithstanding these developments, the pervasive low levels of skills among the majority of the formerly marginalised population and consistently elevated rates of unemployment, particularly within the demographic of young individuals aged 15-35, persist as difficult global challenges and formidable impediments to a prosperous future for all (Lolwana *et al.*, 2015:21).

As it has been accumulated from the stringent curriculum and training practices of the past, the skills development problem is not easy to resolve. In addition to coping with the general pressures created due to the forces of globalisation and the transition to an information-based economy, in the field of skills development, the country faces some specific domestic challenges. These problems were largely inherited from the age of apartheid (Lolwana *et al.*, 2015:21). The legislative body of South Africa formulated the Skills Development Act (SDA) to resolve skills challenges, in a proactive response to the skills shortage, a strategic initiative was undertaken to establish 23 Sectoral Education and Training Authorities (SETAs). These specialised entities, are dedicated to augmenting accessibility to profoundly relevant and appropriate educational and skills development programmes to pave the way for positive reform (Henning, Hagedorn-Hansen & von Leipzig, 2017:105).

The National Skills Development Plan (NSDP) was launched in South Africa in April 2020. In terms of management and governance of skills development, this latest dispensation will bring about reforms. Sectoral Education and Training Authorities will continue to be an influential voice for the labour market and specialists in their various areas. Collaboration among social partners is imperative to collectively invest in skill development, thereby advancing the National Skills Development Plan's (NSDP) aspiration of cultivating a skilled, accredited, and proficient workforce in South Africa. This concerted effort is essential for the nation to attain

elevated levels of economic growth and effectively address challenges such as unemployment, poverty, and inequality (Minister of Higher Education and Training, 2014:1).

#### **2.4. SKILLS DEVELOPMENT DEFINITION**

Yamoah (2014:34) proposes that workforce skills development and training should be compulsory because it turns the priorities, strategies and mission of the organisation into products and services. The skills development concept suggests a step away from a school-oriented approach and involves non-formal programmes that can be conducted in the workplace, although these do not contribute to formal qualifications and involve training in the informal economy (Association for the Development of Education in Africa (ADEA), 2010). The skills development can be considered as a continuing educational journey wherein individuals acquire in advance capability and proficiency, enabling them to undertake new or prospective responsibilities and assignments, as opposed to focusing solely on immediate demands (Shayamano, 2017:20). While, in another study, D'Souza (2018:39) describes skills development as the method of finding skills shortages, creating, and upgrading skills.

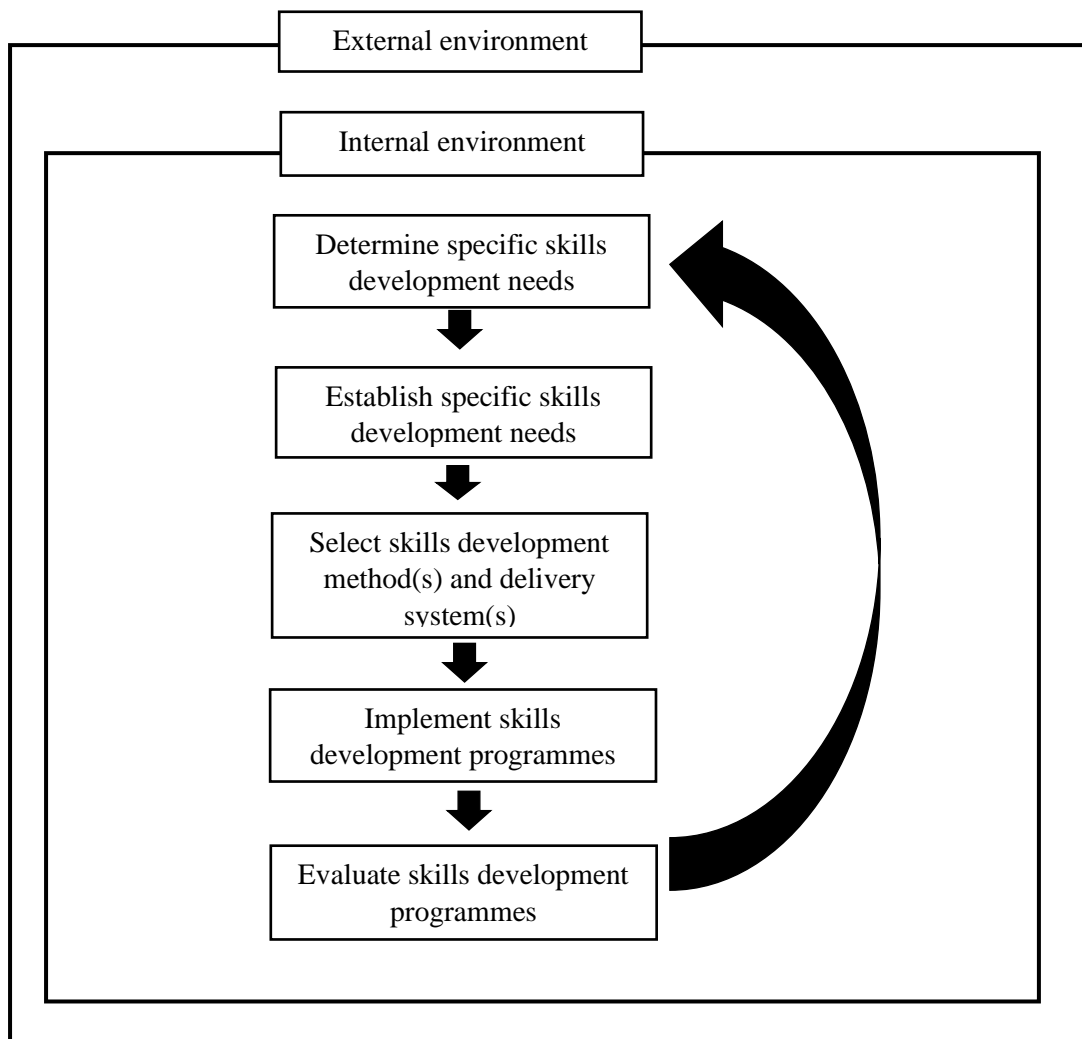
According to Palmer (2007:14), skills development relates to the acquiring of the practical abilities, expertise and behaviours required for the labour market to carry out a trade or occupation. Bisschoff and Govender (2007:55) suggest that, globally and domestically, skills development refers to: gaining new ideas, gaining new principles and theories, adjusting with interest and without fear of technological and economic developments, and taking ownership of the skills gained. A research study by Mopeli (2004:16) compares skills development with the mechanisms, practices, and strategies commonly employed for enhancing the capabilities and skills of people. Mohapi (2011:120) describes skills development as the process of giving workers the necessary education and skills required for their roles, neither exceeding nor falling short.

Skills development is commonly used in reference to the active capacities gained within formal, non-formal, casual, and on-the-job contexts at all stages of learning and training (Swedish International Development Cooperation Agency (SIDA), 2018:1). To construct a comprehensive framework for the implementation of knowledge management within skills development providers, it is imperative to understand the idea of skills development.

## **2.5. SKILLS DEVELOPMENT PROCESS**

Within the fraternity of theoretical discourse on training and development, the skills development process is thoroughly described and investigated. The skills development process is defined as a process of transformation by which an untrained employee is capacitated into a qualified employee, or a current employee may be granted added responsibility through training (Naong, 2009:110). The figure 2.1 below shows the whole lifecycle of skills development. As suggested by Zhao (2016:15), because of the continuously evolving internal and external environmental influences, the process is eternally recycled. Organisations need to prepare their workers to adapt to the changes, and environmental factors must always be considered closely when planning the skills development programme (Zhao, 2016:15).

**Figure 2.1: Skills development process**



Adapted from (Mondy & Martocchio 2015, 214)

## **2.6. DEFINITION OF A SKILLS DEVELOPMENT PROVIDER**

Given the highly favourable policy climate for developing the demand for skills development providers, a main concern in the review of current literature on skills development providers is its definition and interpretation (Harris, Simons & McCarthy, 2006:14). Skills development providers are defined by various words, such as ‘training providers’, ‘private training providers’, ‘skills trainers’ or agencies for training and development. Although these words are potentially identical, they connote core features of skills development providers (Harris, Simons & McCarthy, 2006:14).

Training providers or providers of skill development encompass individuals, corporations, or contractors who deliver both internal and external training to employees within a professional setting, according to research undertaken by Bisschoff and Govender (2007:57). Internal

training suppliers are industrial and professional experts who, through formal and informal training, transfer their expertise, experience, and theories to other workers within their company. External practitioners are professional coaches introduced into companies from the industry to develop capability and transfer expertise to workers (Bisschoff & Govender, 2007:57).

Govender (2003:34) states that a practical concept of a training provider or skills development provider is that a training provider, as we understand it from everyday practical encounters, includes: enterprises, centres, collaboration between a number of stakeholders and consultancies, associations, agencies, individuals and community systems. In the formal and informal segment, they can be governmental, private or both. The provision of training may be internal or external, or both. Training providers offer education, training, and skills development; evaluations; progress reports; and certificates of completion (Govender, 2003:34).

A skills development provider is an officially recognised entity accredited by the Quality Council for Trades and Occupations (QCTO) to provide occupational qualifications or partial qualifications that are registered within the Occupational Qualifications Sub Framework (QCTO, 2019:7). As articulated by the South African Qualifications Authority (SAQA), a skills development provider is an entity that provides instructional programs leading to recognised National Qualifications Framework standards or qualifications and oversees the evaluation process associated with them (SAQA, 2001:30). This study followed Baumgardt's (2013:17) concept, which defines a skills development provider as a training provider providing courses and/or certificates that are aligned with the relevant National Qualifications Framework (NQF) requirements.

## **2.7. THE RESPONSIBILITIES OF SKILLS DEVELOPMENT PROVIDERS**

Skills development providers that offer high-quality services adhere to robust governing structures, incorporating elements such as registration, accreditation and effective quality assurance, and collaborative efforts. These regulatory mechanisms serve as safeguards against the provision of low quality by skills development providers, thereby preserving the credibility of those committed to delivering high-quality skill development (Ward, 2018:3).

Skills development providers have a vital part to perform in designing the material and transfer of skills. Skills development providers and regulatory bodies will improve the incorporation of

labour market demands into the training process and ensure that trainees learn job-relevant skills, notably within vulnerable youth groups (UNDP, IICPSD, 2018:3). The intensified requirements imposed by the enforcement of the Skills Development Act (No. 97 of 1998) in South Africa have placed increased demands on skills providers (W&RSETA 2013:37). Consequently, it is imperative for skills development providers to carefully assess their primary responsibilities in order to enhance their likelihood of achieving optimal performance (Pelser & Mostert, 2016:35).

Skills development providers have a range of responsibilities to implement regarding the occupational qualification or part qualification for which it is approved (QCTO, 2019:10), i.e.:

- a) ensure that learners follow quality materials that are consistent with the accepted QCTO curriculum documents;
- b) include and provide occupational learning, as defined in the applicable curriculum manual, irrespective of the delivery method;
- c) provide access to qualified and appropriate human, financial and physical capital to include the necessary curriculum guide for learning and internal assessments;
- d) enrol students for approved occupational qualification and/or part qualifications in the system recommended by QCTO;
- e) capture learner details on an occupational qualifications learner management system (OQLMS) and submit appropriate QCTO quality improvement information in the format requested;
- f) perform appropriate internal assessments per module as defined in the applicable curriculum manual, including the summative assessment of which must be reported in the manner provided by the QCTO (all modules of the knowledge, practical and workplace components) to allow the skills development provider to provide a declaration of results; the SDP must then review and report the final outcomes for the theoretical and practical modules and join the skills learned in the workplace (curriculum document) as approved by the supervisor or mentor.
- g) internally moderate at least 25 per cent of the final internal assessments carried out;
- h) ensure that the statements of results are provided to learners for completed modules with all three components;
- i) support and ensure that enrolled learners meet the entry requirements of the qualification and record all formal results per class, such that the learner acquires admission to the

External Integrated Summative Assessment in compliance with the QCTO specifications as set out in the assessment policy;

- j) report on enrolments and performance of learners in the nature and manner prescribed by QCTO;
- k) comply with all requirements of quality assurance including monitoring and evaluation activities as prescribed by the QCTO;
- l) maintain information and performance records of learners in the manner recommended by QCTO;
- m) extend QCTO accreditation in line with QCTO requirements;
- n) ensure that the criteria for workplace experience as per training (based on the competencies of the workplace components in the curriculum) are evaluated after completion of simulated or real workplace experience and documented on the OQLMS; and
- o) ensure that learners are subjected to any sort of simulated or actual workplace interaction and collaborate with workplaces (apprentice placement).

## **2.8. PROGRAMMES OFFERED BY SKILLS DEVELOPMENT PROVIDERS**

According to Sekgala and Holtzhausen (2016:46), skills development programmes complement the accomplishment of corporate strategies and objectives, through needs analyses, planning and implementing training programmes, and performing training at all levels across the enterprise and reviewing them. As a crucial part of their workforce equity plans, performance management and performance turnaround efforts, as well as their strategic human resources provisioning strategy, most businesses consider skills development programmes.

The authors have further highlighted that skills development programmes are intended to help businesses fulfil their needs for skills and to ensure that workers improve themselves constantly. Therefore, one could easily understand how failure to supply the enterprise with training and development systems would impede corporate effectiveness and efficiency (Sekgala & Holtzhausen, 2016:47).

In the context of South Africa, programmes offered through the skills development providers receive funding from skills levies through the SETAs (Simon, Pauline & José-Luis, 2014:22). There are three major skills development programmes specifically launched by the government to support and reduce the skills pressure in the country, namely (Rajaram, 2017:63):

- Learnerships/apprenticeships require on-the-job learning hours, coupled with certain off-the-job learning with a skills development provider, and contribute to a certification. It takes the form of an employer and a learner relationship through a SETA contractual agreement.
- Occupational qualifications require examinations in different ‘unit standard’ competences. Any of the 2000 qualifications may be very broad and firm-relevant, and they are often funded by SETAs. They require an evaluation of a particular assessment by a registered assessor, lending themselves to recognition of prior learning.
- Short courses are alternative forms of skills development training that can increase the efficiency and performance of workers to strengthen the particular skills required to conduct their work responsibilities.

Furthermore, internal and external skills development providers in the workplace deliver four distinct types of interventions, as outlined in Table 2.1. These include assessments, training programmes, workshops, and management skills. The delivery mechanisms for these interventions encompass both informal and formal programmes, skills analysis reports, quality assurance checks, management audits, and on-the-job training (Bisschoff & Govender, 2007:58).

**Table 2.1: Types of training interventions**

<b>Training intervention</b>	<b>Description of skills training conducted in the workplace</b>
Training programmes	Courses offered full-time and part-time; Adult Basic Education and Training (ABET) and technical skills; distance learning;
Training workshops	On-the-job training; generic skills training; awareness workshops; personal development training; mentoring; coaching
Assessment training	Training needs analysis; quality assurance; monitoring & assessment; training audits; and internal assessor
Management training	Training the trainer; management training; research and development; workplace skills plans

Source: Adapted from Bisschoff & Govender, 2007:58

## **2.9. REGULATORY BODIES**

The sector of the skills development providers is regulated by a number of institutions such as; Sector Education and Training Authorities (SETAs), Quality Council for Trades and Occupations (QCTO), South African Qualifications Authority (SAQA), Education and Training Quality Assurance (ETQA), and National Skills Authority (NSA). The implementation of legislation and policies for skills development is largely based on regulatory bodies. In reaction to the law, numerous bodies for the development of skills emerged. Such bodies maintain successful and efficient enforcement of the legislation on skills and track the progress of the skills developmental activities (Rajaram, 2017:61). Within the context of this study, the following regulatory bodies within skills development environment in South Africa were examined.

### **2.9.1. Sector Education and Training Authorities (SETAs)**

Sector Education and Training Authorities organise and fund a variety of learning programmes, including internships, bursaries, learnerships and skills development programmes. The programmes are mainly presented by public and private skills development providers (Ward, 2018:9). Training conducted by the SETAs undertaken by skills development providers is accredited by the National Qualifications Framework (NQF), which is intended to promote access to training and grant nationally recognised qualifications and unit standards. The obtained qualifications are then registered with the South African Qualifications Authority (Surgey, 2010:83). The SETAs are their main mechanisms for promoting the engagement and management of government-private sector stakeholder ties. These organisations, which meet periodically, include members of businesses, business associations, corporate training centres run by private intermediaries and labour unions (Petersen, Kruss, McGrath & Gastrow, 2016:429).

In accordance with the Skills Development Act of 1998 (SDA), Sector Education and Training Authorities (SETAs) were instituted to address the skills development requirements of the nation. The SETA framework comprises 21 entities, collectively spanning both the public and private sectors. Notably, each of the 21 SETAs corresponds to a specific industry or occupation within South Africa. These SETAs play a crucial role in orchestrating the advancement of skills within their designated domains, fostering connections and interdependencies with relevant economic activities, as explained by Baumgardt (2013:36). For a comprehensive overview, one

can refer to the published list of Sector Education and Training Authorities (SETAs) illustrated in Table 2.2:

**Table 2.2: List of Sector Education and Training Authorities (SETAs)**

No.	SETA	Acronym
1.	Agriculture sector education and training Authority	AGRISETA
2.	Construction Education and Training Authority	CETA
3.	Banking Sector Education and Training Authority	BANKSETA
4.	Chemical Industries Education and Training Authority	CHIETA
5.	Culture, Arts, Tourism, Hospitality and Sport Education and Training Authority	CATHS SETA
6.	Financial and Accounting Services Sector Education and Training Authority	FASSET
7.	Education, Training and Development Practices Sector Education and Training Authority	ETDP
8.	Energy and Water Sector Education and Training Authority	EWSETA
9.	Local Government Sector Education and Training Authority	LGSETA
10.	Food and Beverages Manufacturing Industry Sector Education and Authority	FOODBEV
11.	Health and Welfare Sector Education and Training Authority	HWSETA
12.	Fibre Processing and Manufacturing Sector Education and Training Authority	FP&M SETA
13.	Mining Qualifications Authority	MQA
14.	Manufacturing Engineering and Related Services Sector Education and Training Authority	MERSETA
15.	Media, Advertising, Information and Communication Technologies Sector Education and Training Authority	MICT
16.	Safety and Security Sector Education & Training Authority	SASSETA
17.	Public Service Sector Education and Training Authority	PSETA
18.	Transport Education and Training Authority	TETA
19.	Services Sector Education and Training Authority	SERVICES SETA

20.	Insurance Sector Education and Training Authority	INSETA
21.	Wholesale and Retail Sector Education and Training Authority	W&RSETA

Source: (DHET: 2020)

The 2013 White Paper on Post-School Education and Training, serving as the policy for skills development, has identified Sector Education and Training Authorities (SETAs) as the key intermediaries tasked with facilitating collaborative initiatives aimed at addressing the shortage of vital skills (DHET, 2013:9). Furthermore, the Skills Development Act of 1998 emphasises the roles of SETAs as resource providers and contractors. SETAs are anticipated to articulate and clarify the skills requirements, integrate essential skills development programmes, provide high-quality management and accreditation services, and manage funds derived from the skills levy. In executing these functions, SETAs engage in direct collaboration with businesses as well as public and private skills development providers (Petersen *et al.*, 2016:428). Within the framework of their mandate granted by the Department of Higher Education and Training, Sectoral Education and Training Authorities (SETAs) are tasked with various responsibilities. As a pivotal function aligned with the National Skills Development Strategy, SETAs play a crucial role in formulating sectoral skills plans. A summary of the duties carried out by SETAs can be found in Table 3 as presented in the SETA report of 2011.

**Table 2.3 Functions performed by the SETAs**

<b>Implement its sector skills plan by:</b>
<ul style="list-style-type: none"> <li>• instituting learnerships;</li> <li>• endorsing workplace skills plans;</li> <li>• disbursing grants to employers, education and training providers, as well as workers, following specified procedures and adhering to prescribed standards and criteria; and</li> <li>• overseeing education and training within the sector.</li> </ul>
<b>Promote learnerships by:</b>
<ul style="list-style-type: none"> <li>• identifying suitable locations for hands-on work experience in professional settings;</li> <li>• assisting in the creation of educational resources;</li> <li>• enhancing the effectiveness of learning facilitation; and</li> <li>• facilitating the finalisation of learnership agreements.</li> </ul>

Source: South African Sector Education Training Authority (SETA, 2011)

### **2.9.2. Quality Council for Trades and Occupations (QCTO)**

The inception of the Quality Council for Trades and Occupations took place concurrently with the enactment of the NQF Act in 2008. The primary objective of the QCTO is to guarantee the establishment of learning programs that align with the needs for scarce and crucial skills. Furthermore, it is entrusted with the responsibility of overseeing and coordinating qualifications within the framework of occupational qualifications, encompassing aspects such as design, accessibility, assessment, and impact (FASSET, 2009:2).

The primary focus of the QCTO is on workplace qualifications, aiming to foster the development of a professional and qualified workforce in South Africa. It is responsible for overseeing the entire process, including the design, implementation, evaluation, and certification of occupational qualifications within the Occupational Qualifications Sub-Framework (OQSF). Additionally, the QCTO is recognised as an authoritative body in accrediting service providers seeking to deliver occupational qualifications (Baumgardt, 2013:40).

### **2.9.3. The South African Qualifications Authority (SAQA)**

The South African Qualifications Authority bears the responsibility of formulating and upholding standards in the sphere of higher education and training. As one of the governing bodies overseeing the implementation of the National Qualifications Framework (NQF), it plays a crucial role in categorising, recording, disseminating, and aligning national qualifications with a guarantee of quality. SAQA, through the application of this framework, verifies that individual qualifications adhere to the standards set forth by the Higher Education and Training Department and the pertinent industry (Aigbavboa, Oke, & Mokasha, 2016:55).

### **2.9.4. Education and Training Quality Assurance (ETQA)**

To guarantee the excellence of education and training, the responsibility for Education and Training Quality Assurance has been delegated to authorise and certify ETQA bodies by the South African Qualifications Authority (SAQA) within specific domains such as economic sectors, educational institutions, and social sectors. The ETQA status of each Sector Education and Training Authority (SETA) has received approval across all economic sectors, thereby ensuring quality assurance in skills development (Mummenthey, 2010:16).

The foundation of quality control strategies for regulatory bodies overseeing skills development providers is rooted in the Quality Assurance Policy of SAQA (SAQA, 2000:8). This policy, serving as a cornerstone, is founded on principles such as transparency, validity, and integrity, encompassing all stakeholders, including regulatory authorities, ETQAs, and providers. SAQA (2001:18) advocates for an interconnected, inclusive, cooperative, process-oriented, and flexible approach, promoting a holistic solution. The Quality Assurance Policy's stipulations, as outlined by SAQA (2000:9), encompass the following requirements:

- accredited by a single ETQA and a common primary emphasis, i.e. ETQA;
- a programme for monitoring quality;
- development, implementation, and assessment of learning programmes for defined recognised standards or qualifications;
- human, physical and financial resources;
- the administrative procedures and practices for recruitment;
- services for learners;
- management of the assessments;
- continuous reporting;
- the potential to produce optimal outcomes through sufficient tools and ETQA procedures;

#### **2.9.5. National Skills Authority**

In accordance with section 4 of the Skills Development Act of 1998, the establishment of the National Skills Authority was mandated to fulfil the specified objectives outlined in the Act. The NSA plays a crucial role by providing guidance to the Minister of Labour on matters pertaining to the national skills development policy and strategy (Coetzee, 2000:12). Additionally, it offers advice on the implementation of the national strategy for skills development and is responsible for the allocation of grants from the National Skills Fund. Furthermore, the NSA is tasked with formulating all necessary regulations related to skills development. Moreover, the NSA serves as a vital link between the national skills development policy, the National Skills Development Strategy, and the SETAs (Coetzee, 2000:12).

The second chapter of the Skills Development Act 97 of 1998 outlines the roles and organisational framework of the National Skills Authority (NSA) (Molaoa, 2011: 27).

- The task involves providing guidance to the Minister of Labour on matters pertaining to a comprehensive national skills development policy and strategy. This includes formulating guidelines for the implementation of the national development strategy, overseeing the allocation of subsidies from the national skills fund, and contributing to the development of any necessary regulations.
- To collaborate with SETAs regarding the national policy on skills development and the implementation of the National Skills Development Strategy.
- To provide updates to the Minister of Labour regarding the advancements achieved in executing the National Skills Development Strategy.
- To carry out inquiries stemming from the Skills Development Act of 1998, as mandated by the legislation.

The National Skills Authority (NSA) comprises the business sector, labour, government, and society, as stated by Marock (2010:19), and the author further emphasises that the NSA has a responsibility to advise the Minister of Labour on matters relating to skill development. The NSA did not come under the spotlight in the way that the SETAs did, and there was some confusion as to its position. Changes in the national government are an opportunity to reconstitute the NSA and to ensure that any similar system has a specific aim and that sufficient standards of representation are required for such a structure (Marock, 2010:19).

## **2.10. SKILLS DEVELOPMENT PROVIDER ACCREDITATION PROCESS**

Accreditation to be a skills development provider happens in two different ways. Firstly, prospective skills development providers can obtain accreditation directly from the QCTO against recognised occupational qualifications. Furthermore, prospective providers can jointly obtain accreditation from a related SETA and QCTO against legacy qualifications. In the above scenario, the skills development provider must first receive from the QCTO a letter of intent through which they may request accreditation from the SETA (SERVICES SETA, 2020). Accreditation is provided to a skills development provider through a method of quality assurance that shows the quality of training the provider is providing. There are many reasons

for an organisation or a learner to use an approved accredited training provider for the purpose of skills development needs, and these reasons are (SERVICES SETA, 2020):

- Be assured that the training you will receive is of excellent quality, and the institution offering the training is well-established and reputable,
- Be assured that the courses offered have received accreditation from SETA, affirming that the training programs provided adhere to the relevant National Qualifications Framework (NQF) requirements,
- Upon successful completion of your BEE scorecard, you have the opportunity to claim credits against your training expenditure,
- This criterion is a prerequisite for eligibility for SETA grants and is also considered in for SARS tax returns,
- Qualifications obtained from an authorized service provider will be referred to as recognised.

The QCTO is accountable for accrediting an individual or organisation as a skills development provider for a particular occupation or part qualification if the following conditions are fulfilled (QCTO, 2019:13):

For institutional compliance, referred to as Phase I of accreditation, the entity or institution must:

- be a legal entity registered or founded under South African legislation;
- have a valid certificate of tax clearance provided by South African Revenue Service (SARS), where applicable;
- prove financial viability of the training programs provided;
- Have ample human capital to achieve skills development provider functions;
- Have a learner support plan, an assessment guideline and a policy on occupational health and safety; and
- Prove it has logistical tools for learner management.

For programme delivery readiness, referred to as Phase II of accreditation, the entity or institution must:

- provide proof of suitably trained workers to promote learning and internal assessment, as illustrated in the curriculum;
- be in ownership or have access to the appropriate physical resources as expressed in an occupational certification programme document or a part of the certification where training or facilitation takes place;
- provide proof of learning content, internal assessment guidelines, as well as internal moderation guidelines for the delivery of knowledge and practical components for the occupational certification or part of the qualification required;
- ensure a learner placement plan in relation to the programme/s of the occupational qualification or part qualification applied for;
- provide proof of conformity with appropriate workplace health and safety requirements as necessary for the occupational qualification or part qualification applied for as applicable; and
- offer proof of learning management systems and manage learner success.

## **2.11. LEGISLATION APPLICABLE TO SKILLS DEVELOPMENT PROVIDERS**

The Government of South Africa has worked diligently to ensure that there is a clear regulatory structure for skills growth. The law on professional growth is rooted in the spirit of growing the workforce, with direct advantages for both workers and employees. Proper enforcement of skills development regulations provides the company with good return on investment and efficiency, as well as a more trained, content and motivated employee (Rajaram, 2017:53).

It is mandatory that all skills development providers, whether internal or external or both, fully conform to regulatory standards for national skills development by offering quality, uniform training intervention requirements (Bisschoff & Govender, 2007:60). The regulations overseeing the management systems for skills development in South Africa are described by government-enacted laws pertaining to training and development. This investigation focuses on four key statutes, namely the Skills Development Act 97 of 1998, the Skills Development Levies Act 9 of 1999, the National Qualifications Framework (NQF) Act 68 of 2008 and the

South African Qualifications Authority (SAQA) Act 58 of 1995 (Manyau, 2015:19). Moreover, the Education Training and Development (ETD) practices in South Africa serve as guiding principles for the mechanisms governing skills development management (Manyau, 2015:19). The legislation applicable to this study is individually regarded to signify their responsibilities and duties within the environment of skills development, especially with regard to skills development providers.

### **2.11.1. Skills Development Act (97 of 1998)**

One of the notable legislative components related to the enhancement of skills is the Skills Development Act (97 of 1998). This legislation is an integral part of South Africa's National Skills Development Strategy, designed to address both economic and social challenges, as highlighted by Mohlala (2004:38). The author presents that skills acquisition through training and growth has become the most effective method for enhancing productivity, both internally and institutionally. The enhancement of skills and training in the South African context will be examined in the context of the prevailing economic, political and social conditions, with a constant focus on national priorities such as rehabilitation and growth (Mnisi, 2015:56). The enactment of the Skills Development Act (97 of 1998) was prompted by the acknowledgment that the economy faced constraints due to a shortage of skilled labour. Additionally, there was a political imperative to redress the racial disparities in training and employment opportunities. The nation experienced a rise in unemployment, as the job sector could not recruit properly prepared and skilled human capital. In fact, there was not enough training received by the workers (Mnisi, 2015:56).

The objective of the Skills Development Act (Act 97 of 1998) is to enhance the skills of the South African workforce. In fact, the Act defines the following reasons:

- Improving the standard of employees' lives, their job opportunities and workforce mobility;
- To boost employee efficiency and business performance;
- Promoting self-employment and rising participation rates in labour market education and training;
- Enabling workers to view the position of employment as an engaging learning atmosphere;

- Giving workers chances to learn different talents; and
- Promoting the engagement of staff in development activities and other training initiatives.

The reason for the Skills Development Act (1997) is to include an operational basis for the creation and execution of national, industry and workforce policies, the production and enhancement of South African workplace competencies. The Act's main emphasis is on enhancing the job opportunities of economically vulnerable individuals by education and training (Rajaram, 2017:54).

### **2.11.2. Skills Development Levies Act**

The legislative framework outlined in the Skills Development Levies Act 9 of 1999 aims to address the perceived inadequate investment by organisations and companies in skills development. Additionally, it institutes a statutory levy system designed to fund the planned skills development initiatives as outlined in the Skills Development Act 9 of 1999 (Molaoa, 2011:29).

The Skills Development Levies Act 9 of 1999 enables the deduction of a monthly levy from the payrolls of employers. This levy is mandated to be remitted to the Commissioner of the South African Revenue Service (SARS) by the employers. Nevertheless, in cases where the Ministers of Labour and Finance are assured that adequate justifications and specific criteria are adhered to, authorisation may be granted to employers under the purview of a designated sectoral education and training authority. The National Skills Fund (NSF) receives a 20% allocation from the raised funds, dedicated to supporting national skills objectives. The remaining 80% of levies are required to be transferred to the bank accounts of various Sector Education and Training Authorities (SETAs). These funds are utilised to finance operational responsibilities and cover administrative costs within the prescribed cap. In cases where no SETA is established, the funds are directed to the NSF for the respective industry (Molaoa, 2011:30). The Skills Development Levies Act 9 of 1999 in South Africa establishes a skills development levy for employers. This legislation requires government agencies to allocate a specific portion of their budget towards skills development initiatives, the Skills Development and Levies Act serves to assist businesses and organisations in this regard (Meyer, 2002:14).

## **National Qualifications Framework (NQF) Act 67 of 2008**

The National Qualifications Framework serves as a framework providing guidance and context for the establishment of a comprehensive national certification program. This initiative, on a national scale, aims to integrate education and training within a unified and comprehensible skills framework. The NQF registers all credentials and competencies based on their respective professional domains and development standards (Botha, Kiley & Truman, 2007:15).

The NQF, is guided by a principle that advocates for the recognition of a diverse range of skills and knowledge. In South Africa, the NQF is organised into attainable stages designed to provide national accreditation to qualified learners based on their expertise and abilities. This structured framework encompasses numerous qualifications, each graded in alignment with market demands. The oversight and management of NQF standards are entrusted to the SAQA, as detailed in the South African Qualifications Authority Act 58 of 1995. Notably, these standards play a pivotal role in developmental considerations (Masilela, 2012:28). Mnisi (2015:64) further outlines the objectives of the NQF, highlighting its significance in the South African educational landscape:

- Facilitate the expeditious correction of historical instances of unjust discrimination in education, training, and employment prospects.
- Facilitate the comprehensive growth of every learner and contribute to the broader societal and economic advancement of the nation.
- Establish a comprehensive national framework for educational accomplishments.
- Improve the standard of education and training.
- Promote ease of entry, enhance mobility, and support advancement in educational, training, and career trajectories.

Moreover, the NQF was designed with the aim of establishing a comprehensive outcome-based education and training (OBET) framework. This structure encompasses quality-assured unit standards and qualifications, encompassing education, training, and skills development across all levels (8 levels of the NQF). This approach is applicable in both workplace settings and educational institutions. The foundational elements of this framework include outcomes-based education, unit standards, and recognition of prior learning (RPL) (Mummenthey, 2010:13).

### **2.11.2.1. Outcomes-based education (OBET)**

Outcomes-based education revolves around assessing individuals based on their acquired knowledge and skills resulting from learning, rather than emphasising the methods employed to attain those outcomes (Mummenthey, 2010:13).

### **2.11.2.2. Recognition of prior learning (RPL)**

Recognition of prior learning (RPL) is the method of identifying the current abilities and knowledge of individuals, irrespective of when or how they learned and gained them. It can be found in the NQF levels. The different ladder levels of the NQF contribute to the growing sophistication of the skills needed to obtain the specified results of the registered qualifications at the exit level (Mummenthey, 2010:13).

### **2.11.2.3. Unit standards**

Unit standards represent the fundamental, individual elements of a certification that culminates in a formally recognised qualification when assembled collectively. Each unit standard is assigned a specific credit value based on the average national learning time required to attain the desired outcome. The credit value estimation follows a straightforward formula: 10 notional hours are equated to 1 credit value (Mummenthey, 2010:13).

### **2.11.3. South African Qualification Authority Act 58 of 1995**

The extensive range of training certificates and available options within the training and development sector makes it exceedingly challenging for learners to measure the quality of a course and the proficiency of the provider. Likewise, employers face difficulty in assessing the merit of trainees' qualifications. Addressing this challenge, the South African Qualification Act 58 of 1995 resolves the issue by instituting a legal mechanism. This mechanism includes a standardised universal identification process incorporating national standards, aiming to enhance the efficiency and validity of training (Molaoa, 2011:30). The SAQAs' role is to supervise the establishment and execution of the NQF, which acts as a mechanism for developing an interconnected national framework for learning accomplishments and enhancing exposure, accessibility and enhancing the effectiveness of the elements within the system for delivering education and training (Molaoa, 2011:30).

In addition, the SAQAs' responsibility is to supervise the creation of the national certification system (NQF) and formulating and issuing regulations and guidelines for the organisations that

are tasked with determining requirements and qualifications for education and training. Overseeing the implementation of the NQF and providing counsel to the Minister of Education on issues pertaining to the quality and standards of qualifications (Molaoa 2011:32). Over the preceding years, the strategy for skills development and the associated policy guidelines have evolved into an integrated framework encompassing education, training, and development (ETD) practices, along with unit standards. This framework has become a crucial element within South African organisations, contributing significantly to organisational development and serving as a pivotal initiative for enhancing people's lives through effective service delivery systems. Consequently, it is imperative to describe the objectives for skills development that both public and private entities will respond to, aiming for successful service delivery outcomes (Molaoa 2011:32).

The SAQA aims to enable the organisation and implementation of the NQF. The NQF serves as a system to establish a comprehensive national framework, fostering learning achievements, and improving access, mobility, and quality within the education and training delivery system (Tuck, 2007:11).

Moreover, according to Isaacs (2000:4), the functions of SAQA are as follows:

- Supervising the execution of the NQF;
- Supervising the progress of the developing NQF;
- Developing and circulating guidelines and standards for the entities entrusted with the role of defining educational and training norms and qualifications.
- Being responsible for financial control of the authority; and
- Providing counsel to the Minister of Education regarding issues pertaining to the accreditation of standards and qualifications.

## **2.12. NATIONAL SKILLS DEVELOPMENT STRATEGY**

In a section entitled *Building Partnerships for a Skills Revolution*, the National Skills Development Strategy III asserts that the establishment of interdependent connections and shared responsibility among various entities, including government, industry associations, labour unions, constituency bodies, and implementation agents such as SETAs, as well as government bodies, employers, business and technical organisations, public and private

training providers, community-based organisations, cooperatives, and NGOs, is indispensable for realising the aspirations of heightened economic growth and development, increased productivity, and the cultivation of a skilled and adept workforce to propel a transformative skills revolution within the nation (DHET, 2011:25-26).

According to the DHET (2011:8), the National Skills Development Strategy III is “the overarching strategic guide for skills development and provides direction to sector skills planning and implementation in the SETAs.” The Minister’s foreword, while acknowledging private training providers, made it clear that “priority will be given to strengthening the relationship between public colleges and universities and the SETAs, as well as with employers.” This priority is captured in Goal 4.3: “Promoting the growth of a public TVET college system that is responsive to sector, local, regional and national skills needs and priorities” (Ward, 2018:4). Outcome 4.3.2 of the NSDS III contains the only mention of private providers in the ‘Theory of Change’ and states the aspiration that “partnerships between DHET, SETAs, employers, private providers and public TVET colleges are resulting in increased capacity to meet industry needs throughout the country” (Ward, 2018:4). Private providers are excluded from the results and, as a result, are not explicitly discussed in the annual assessments of the objectives, results, or outputs of the strategy. To better understand this limited involvement of private providers in the objectives of NSDS III, it is beneficial to examine the broader vision of post-school education outlined in the Green and White Papers for this sector (Ward, 2018:4).

The successful execution of the strategy relies on the collaborative efforts of the Department of Higher Education and Training (DHET), Sector Education and Training Authorities (SETAs), and the National Skills Fund (NSF), which function as the primary agents responsible for its implementation. This collective responsibility involves fostering cooperation, coordination, and forming partnerships. Additionally, the NSDS III establishes a framework, as outlined by DHET (2011:7), for the planning and execution of skills development programs and activities.

- Seven crucial imperatives for development and transformation that serve as the focal points for programmes and activities aimed at enhancing skills.
- The foundation for organising skills development programmes and activities is provided by seven pillars.

- The NSDS III is shaped by eight commitments from the Human Resource Development Strategies for South Africa (HRDSSA), aligning with various pertinent government strategies, plans, and programmes at both the national and sector-specific levels. These commitments serve as influential factors guiding the direction of NSDS III.

Over the last five years, the skills development strategy and associated policy prescriptions have developed into an interconnected set of procedures and unit requirements for education training and development (ETD). In South Africa, they build an essential part of business as well as organisational development and form a central commitment through information management delivery processes to build people's skills. Therefore, it is crucial to specify the objectives for enhancing skills that public and private entities need to address to successfully integrate the effective implementation of knowledge management (Molaoa, 2011:33).

### **2.13. CHAPTER SUMMARY**

This chapter presented an overview of skills development, the international perspective on skills development and the skills development context within South Africa, followed by the skills development definition and process. Secondly, the definition and responsibilities of a skills development provider were described, including the programmes offered by the skills development provider. Thirdly, the evaluation of the programmes and regulatory bodies within skills development were detailed. Lastly, the accreditation process and legislation applicable to skills development providers were presented, including the national skills development strategy. The next chapter, Chapter 3, provides a detailed discussion of knowledge management.

## **CHAPTER 3**

### **KNOWLEDGE MANAGEMENT LITERATURE REVIEW**

#### **3.1. CHAPTER OVERVIEW**

This chapter provides an overview of knowledge management (KM) by explaining the difference between data, information, and knowledge. The concept knowledge is defined and classified. The knowledge-based view and resource-based view are discussed as this study is grounded on both theories. The KM and its components are described, followed by the KM processes, systems, and models. Additionally, the importance or benefits of KM are described. The critical success factors and the steps of KM implementation are alluded to. Lastly, the challenges and knowledge management implementation (KMI) framework will be described.

#### **3.2. DIFFERENCES BETWEEN DATA, INFORMATION AND KNOWLEDGE**

Various interpretations of the concept of knowledge exists in literature. It is argued that the fundamental aspect in defining knowledge lies in the differentiation of data, information, and knowledge, recognising the combination of knowledge with information or data (Zins, 2007:480). According to Lin (2019:1754), data is made up of experiences or findings that are not immediately relevant to the context. When a relevant content to data is provided, information becomes available, which is a type of communication. Experience, conversation, or interpretations based on the arrangement of significant information are used to believe and assess knowledge. Contrary to common belief, data represents raw numbers and facts, while information denotes processed data, and knowledge encompasses identifiable information. Nevertheless, comprehensively scrutinising the progression from data to information to knowledge, proves to be a challenging task (Lin, 2019:1754). The crucial method for effectively distinguishing information from knowledge doesn't centre on the content, structure, accuracy, or practicality of the proposed information or knowledge. Instead, it lies in the recognition that knowledge residing in the human mind is, fundamentally, a form of information. This encompasses facts, methodologies, concepts, cognition, interpretation, observation, judgment, and is essentially personalised information according to Lin (2019:1754).

Although the three phrases are commonly used interchangeably, knowledge is separate from data and information. They are, nevertheless, very different in nature (Paschen, Kietzmann & Kietzmann, 2019). The notions of, data, information and knowledge are defined and

demonstrated, as well as how they are differing. The concept of knowledge is also influenced by the next discussion (Fernandez & Sabherwal, 2010:17). Data consists of raw facts, experiences, and opinions “which may or may not be correct”. Data, by itself, is a collection of statistics or claims that may be without sense, intent, or context (Sabherwal & Becerra-Fernandez, 2013). The term "information" refers to a subcategory of data infused with context, significance, and purpose. In the realm of the information industry, it is customary to transform raw data, enhancing it to provide a more meaningful representation of patterns or structures within the data (Fernandez & Sabherwal, 2010:17).

From a simplified perspective, there is a hierarchical arrangement, with knowledge positioned at the apex, information in the middle, and data at the base (Dammann, 2018). Knowledge, in this view, refers to information that allows for action and decision-making, as well as information with direction (Abubakar, Elrehail, Alatailat & Elçi, 2019:107). Consequently, knowledge shares a fundamental similarity with information and data, though being the most profound and enriched among the trio, rendering it the most highly esteemed (Dammann, 2018). Given that knowledge surpasses facts and information in terms of significance, it stands as the most invaluable resource for both problem-solving and decision-making (Haupt, 2018:207). Whereas data refers to basic facts that have not been processed or analysed, the term "information" denotes processed data intended to convey greater meaning to users (Ahmad & An, 2008:134). Therefore, knowledge transcends mere facts and information by integrating information with experiences, illustrating techniques and processes employed by others that could be applied in the future to address similar challenges (Reinhardt, Schmidt, Sloep & Drachsler, 2011:151).

### **3.3. KNOWLEDGE**

Even though trying to define knowledge has preoccupied well-known scholars around the world, and there have been various epistemological discussions since ancient days, there is a lack of widespread agreement regarding the comprehension of the concept of knowledge, or perhaps even the constraints of the concepts data, information, and knowledge (Wang & Chin, 2020:2). Knowledge is a critical factor that allows businesses to absorb, study, and use other resources efficiently (Shahzad, Qu, Zafar & Appolloni, 2021:4209). Organisations must be creative in a swiftly competitive and rapidly changing economic environment by introducing new knowledge, combining current knowledge to the new knowledge, and gaining new competences to meet the diverse needs of various customers (Singh & Gupta, 2014:777).

In the academic arena, there are differing views on what constitutes knowledge (Van de Ven & Johnson, 2006:802). Researchers describe knowledge from several points of view. According to epistemology, knowledge is defined as consciousness. The acquisition of knowledge results from experiences, and it is considered to be the cumulative outcome of the collective mental interactions within the human sphere. The accumulation of knowledge involves gathering thoughts, encompassing individuals' perspectives on reality, community, cognitive processes, and existence (Jakubik, 2007:10). Ontologically, knowledge is a distinctive resource emerging from the interactions among living and non-living elements. It represents an ideological asset shaped by nature's advancement to a specific extent (Jakubik, 2007:7). From an economic perspective, knowledge is considered a result of human effort, constituting a labour product with inherent value and utility. In the field of information theory, knowledge is defined as a collection of interconnected information, encompassing the process of simplification and generalisation to facilitate the attainment of specific objectives (Lin, 2019:1754). The author contends that these diverse concepts present distinct perspectives on knowledge, contributing to a varied understanding of knowledge management (Lin, 2019:1754). The emphasis in knowledge management should be on establishing and sustaining repositories of knowledge if one perceives knowledge as a unit similar to information acquisition. Alternatively, if knowledge is seen as a dynamic process, the focus should shift towards managing the flow of knowledge, as well as facilitating its creation, sharing, and distribution. In alignment with the perspective of knowledge as a capability, knowledge management activities to cultivate a competitive advantage, determine strategic benefits, and build intellectual capital (Lin, 2019:1754).

Tubigi and Alshawi (2015) characterise knowledge as the process of transforming individual ideas into concrete reality. Other authors see knowledge as information that has been integrated with experience, perspective, analysis, and reflection (Davenport & Völpel, 2001). Haris and Harib (2018:260) describe knowledge as a system of information that includes facts, views, concepts, principles, and frameworks or models. One of the most generally recognised definitions of knowledge is “*justified true belief*” (Nonaka & Takeuchi, 1995:87). The authors call this definition of knowledge the tripartite account of knowledge because it includes three basic conditions (Nonaka & Takeuchi, 1995:87). The conditions are listed below;

•**The condition of truth:** It is imperative to recognise that possessing knowledge of a proposition is contingent upon the truthfulness of that proposition. Should the statement be inaccurate, the individual cannot genuinely claim to possess such knowledge? The criterion of truth serves as a distinguishing factor between mere beliefs and genuine knowledge.

•**The condition of belief:** This condition stipulates that an individual must hold belief in a proposition if they possess knowledge of it.

•**The condition of justification:** The necessity of demonstrating the truth of one's belief requires a tangible method or proof.

Davenport and Prusak (1998:5), in their conceptualisation of knowledge revolves around a comprehensive depiction that encompasses various dimensions of knowledge. They pronounce knowledge as a dynamic combination of structured experience, values, contextual information, and expert insights, serving as a foundation for assessing and assimilating new experiences and information. In the context of this research, knowledge is construed as refined information subjected to processing for the purposes of utilisation, sharing, and storage.

### **3.4. CLASSIFICATION OF KNOWLEDGE**

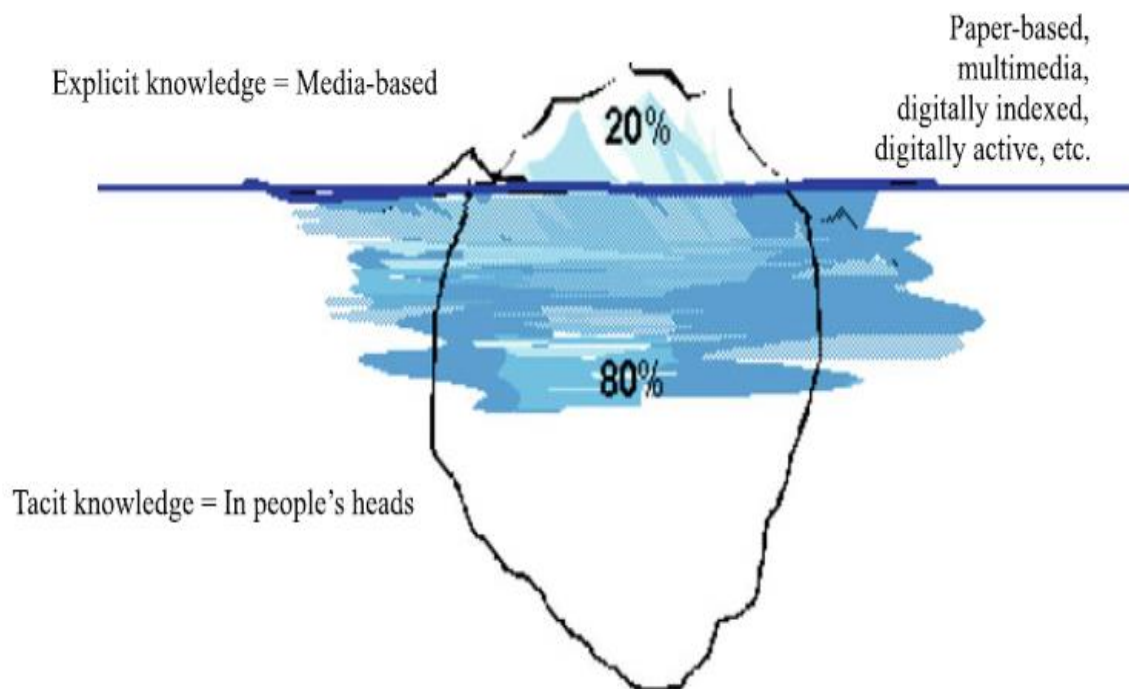
Most of the knowledge is in the nature of tacit and explicit knowledge (Nonaka, 1994; Polanyi, 2009). Although some research suggests that these two concepts cannot co-exist together within organisations, others emphasise such coexistence, interaction, and an ongoing discussion between the two (López-Cabarcos, Srinivasan & Vázquez-Rodríguez, 2020:1037). According to Nonaka (1998) and Duffy (1999), there are two kinds of knowledge: tacit knowledge and explicit knowledge. Tacit knowledge is a type of knowledge that is absorbed and implemented implicitly, is difficult to articulate, is derived from actual experience and conduct, and is typically transmitted through highly interactive discussion, narration, and common experience (Gamble, 2020). Tacit knowledge is unorganised knowledge that cannot be readily conveyed by data or knowledge structures (Jennex, Smolnik & Croasdell, 2014:3616).

Tacit knowledge is uncommunicative, instinctive, and unexpressed knowledge that people carry around with them (Serrat, 2017:291). Since it is based on abilities, experience, understanding, instincts, and perception, it is complex to understand and communicate, but it can be imparted through conversation, stories, and interpersonal relationships (Chugh,

2015:129). It has a technical aspect that includes skills and abilities identified as expertise. It also has a psychological component that includes opinions, ideologies, principles, conceptual frameworks, and frames of reference (Serrat, 2017:291).

Explicit knowledge, conversely, is simple to express, acquire, and disseminate in a variety of formats because it is formal and structured (Rafi, JianMing & Ahmad, 2020:241). Explicit knowledge is articulated and interpreted through knowledge representations (Jennex *et al.*, 2014:3616). Explicit knowledge is regarded as codified knowledge that can be articulated in various ways, such as written form, illustrations, or computer software, and conveyed in a variety of ways (Ibrahim & Salleh, 2019:24). Tacit knowledge and explicit knowledge are two types of knowledge that complement each other. The iceberg metaphor used to characterise the hidden essence of tacit knowledge is illustrated in Figure 3.1 (Serrat, 2017:292).

**Figure 3.1: Iceberg metaphor**



Source: Serrat, 2017:292

**Table 3.1 Summary of the major attributes of tacit and explicit knowledge**

<b>ASSESSMENT OF ATTRIBUTES OF TACIT VS EXPLICIT KNOWLEDGE</b>	
<b>Attributes of tacit knowledge</b>	<b>Attributes of explicit knowledge</b>
Adaptability, the capacity to handle new and unique situations	It should be disseminated, reproduced, accessible, and reapplied throughout the organisation
Expert knowledge, know-how, know-why, and care-why	A capacity for teaching and training
Ability to communicate, to collaborate, and to share ideas	The ability to arrange and structure, transforming a vision into a mission statement accompanied by a set of operational guidelines.
Mentoring and coaching for the transference of experiential knowledge one-to-one	Utilising goods, services, and well-documented procedures for the transmission of knowledge.

Source: Dalkir (2017:8)

### **3.5. KNOWLEDGE-BASED VIEW**

In accordance with the theory of knowledge-based view (KBV), organisations must acquire fresh knowledge to effectively contend with rivals within their industry (Herden, 2020:166). Knowledge-Based View posits that a business functions as a dispersed knowledge system, comprising individuals holding diverse knowledge, and the organisation's responsibility lies in orchestrating their efforts to foster the creation of knowledge and value for the company (Ndabari, 2021:544). Amin, Usman, Sohail and Aslam (2018:527) argue that knowledge assets are just as crucial, but not more significant than physical and financial assets for competitive advantage and survival. Strategies grounded in knowledge and capabilities have significantly broadened the perspective of resource-based theories. They suggest that knowledge serves as the pivotal resource driving the generation of new value, diversification, and competitive advantage (Gonyora, Migiro, Ngwenya, & Mashau, 2021).

Knowledge, according to KBV, is the most essential source of competitive advantage for businesses (Cepeda-Carrion, Martelo-Landroguez, Leal-Rodríguez & Leal-Millán, 2017:2). In

accordance with the aforementioned argument, Tallman, Jenkins, Henry, and Pinch (2004:268) assert that the essential resource for corporate strategy and the basis of competitive advantage lies in knowledge rather than individual expertise. Furthermore, knowledge assists organisations in the strategic development of goods and markets, as well as providing an additional method of attaining differentiation and competitive advantage (Du Plessis, 2007).

Knowledge-based view has supported a move from a competitive advantage depending on the market position to one based on the firm's competencies (Kinyua, 2015:29). Furthermore, the objective of the company's initiatives has shifted from position-based to capabilities-based (Felin & Hesterly, 2007). Companies typically internalise new information from strategic partnerships through alliances or the development of successful frameworks to increase their competencies (Inkpen, 2000). KBV emphasises knowledge-based competitiveness and shows how organisations may distinguish themselves depending on existing knowledge management frameworks. While each personal knowledge resource is tough to obtain and challenging to duplicate, Organisations that achieve a competitive edge through KM have acquired the skill of effectively combining their knowledge assets, leading to the successful development of a comprehensive KM capacity (Kinyua, 2015:29).

Knowledge-Based View is particularly relevant in the context of developing a framework for the implementation of knowledge management (KM) within an organisation (Kinyua, 2015:29). Implementing knowledge management involves systematically capturing, organising, and disseminating knowledge within an organisation to enhance its overall performance. The KBV theory provides a theoretical lens through which the dynamics of knowledge creation, accumulation, and implementation can be comprehensively examined (Kinyua, 2015:29). Furthermore, the KBV theory highlights the strategic significance of knowledge as a core resource for organisations. When developing a framework for knowledge management implementation, organisations must align their KM strategies with overall business objectives (Gold, Malhotra & Segars, 2001). This alignment ensures that knowledge management efforts contribute directly to the organisation's competitive positioning and long-term success.

### **3.6. RESOURCE-BASED VIEW**

According to the perspective of the resource-based view (RBV), an organisation can be perceived as an integration of resources that are transformed into strengths and weaknesses under the guidance of management (Barney & Arikan, 2005). According to RBV, organisations

acquire long-term competitive advantages by investing in valued, inelastic resources and skills (Ray, Barney & Muhanna, 2004:23). Furthermore, RBV advises that a company's resources be valued based on how valuable, scarce, and difficult to reproduce they are for rivals (Hart, 1995). When such important resources are not available, the business can only achieve competitive balance (Kinyua, Muathe & Kilika, 2015:229). As per Berman Down and Hill (2002), these important resources are typically discovered in companies as tacit knowledge.

Within the business context, resources such as personnel, finance, physical, technology, social and organisational aspects all contribute to a company's ability to provide value to its consumers (Smit, Cronje, Brevis & Vrba, 2011). There are two types of company resources: tangible and intangible (Jancenelle, 2021). Intangible resources are nonphysical items created by management and other workers, such as the company's reputation, knowledge obtained through experience, and intellectual property, including that protected by patents, trademarks, and copyrights (Michalisin, Smith & Kline, 1997:362).

The adoption of the resource-based view in a company serves as an excellent foundation for establishing a structure to implement knowledge management (Halawi, Aronson, & McCarthy, 2005:77). This viewpoint suggests that an organisation's strategic initiatives, including knowledge management, can be leveraged to generate new resources and capabilities. Furthermore, it emphasises the potential to enhance the existing resources and capabilities of the company, thereby augmenting its specific competencies and overall performance (Tseng & Lee, 2014). The resource-based view also highlights the significance of intangible assets such as knowledge and skills, asserting that these elements can be harnessed to attain a sustainable competitive advantage (Hall, 1993). This argument presents a compelling rationale for the establishment of a framework to facilitate the implementation of knowledge management.

### **3.7. KNOWLEDGE MANAGEMENT**

The majority of the existing comprehensive models of KM pertain to an organisation's capacity to generate, obtain, store, sustain, and distribute knowledge (Ngai & Chan, 2005). Greco, Grimaldi, and Hanandi (2013:2) highlight that the examination of KM is distinguished by diverse perspectives and methodologies.

Quintas, Lefrere, and Jones (1997) describe knowledge management as an ongoing activity involving the systematic administration of diverse knowledge forms to meet present and evolving needs. This entails recognising and harnessing both pre-existing and newly acquired

knowledge assets while also fostering the creation of fresh opportunities. Knowledge management is the organisational effort to make knowledge accessible within its confines, aiming to enhance both individual and organisational performance (Brewer & Brewer, 2010).

Knowledge management refers to a structured field and a set of methods aimed at enhancing the dissemination, expansion, and creation of value through information and knowledge within an organisation (Rao, 2012). According to the definitions given above, knowledge management appears to be a guiding force within an organisation that develops and builds organic and comprehensive ways that demonstrate the value and importance of knowledge processes (Greco *et al.*, 2013:2).

The notion of knowledge management was developed from the business world in the 1980s, with the goal of maintaining important knowledge within corporate companies while also improving business performance and competitiveness (Wiig, 1997). Business and academic writers have debated the topic of knowledge management (Floyde, Lawson, Shalloe, Eastgate & D'Cruz, 2013:70). Knowledge management is a structured, coordinated method of evaluating which information is more beneficial to the firm than others and developing capacity to make that information easily accessible to those who need it (Masa'deh, 2016:221). According to Horwitch and Armacost (2002), as quoted by Masa'deh (2016:221), knowledge management involves the activities of creating, implementing, adapting, and safeguarding relevant knowledge to enhance policies, alter behaviours, and achieve desired outcomes.

Knowledge management, according to Bounfour (2003), is a collection of procedures, architectures, technology, and managerial instruments used to develop, exchange, and exploit knowledge within and outside of a company. Knowledge management is the process of discovering and organising a firm's collective knowledge to help it compete, and can also facilitate the transfer and dissemination of knowledge (Lin, 2019:1755). Gunjal (2019:37) describes KM as the process of obtaining, administering, and sharing employees' knowledge capital across an organisation.

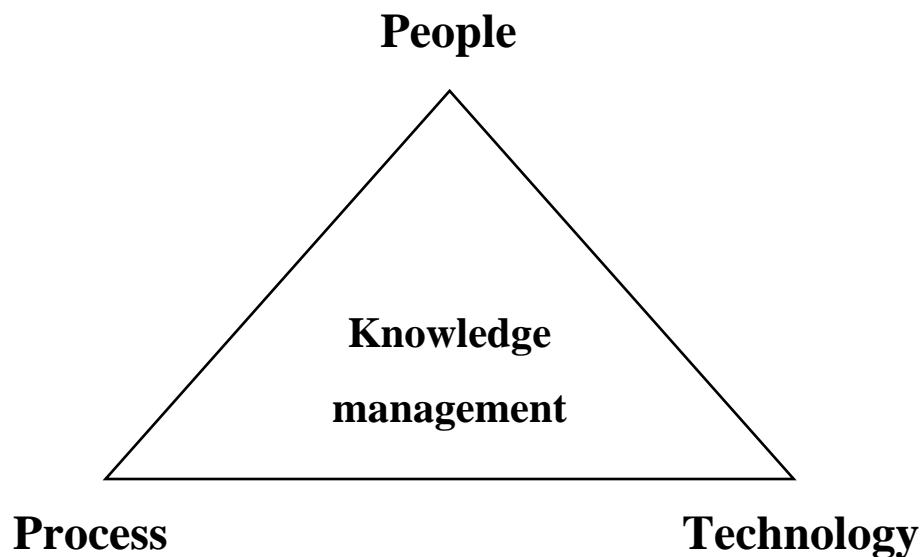
The term knowledge management refers to the process of acquiring, organising, sustaining, applying, distributing, and refreshing staff knowledge to improve corporate efficiency and increase value (Alavi & Leidner, 2001). The concept of knowledge management involves the systematic activities of generating, extracting, converting, and preserving pertinent knowledge and information. Its aim is to offer solutions for both individuals and organisations (Huang & Lai, 2014:79). In the context of this research, knowledge management is explicitly explained

as the coordinated process of supervising the creation, acquisition, dissemination, storage, and application of knowledge within a well-organised framework.

### **3.8. COMPONENTS OF KNOWLEDGE MANAGEMENT**

Bhojaraju (2005) defines components of KM that may be broadly grouped into three classes: people, processes, and technology based on real-life experiences of the top worldwide KM case studies (see Figure 3.2). A substantial number of firms implementing KM have found it relatively easier to put technology and processes in place than the component *people*, despite the fact that all three types are necessary to create a learning organisation and achieve business goals (Jauniškytė & Kvaraciejūtė (2008:9).

**Figure 3.2: Components of knowledge management**



Source: Bhojaraju, 2005:40

#### **3.8.1 People**

The discipline of knowledge management centres on the cultivation of a conducive environment within people and organisational culture, aiming to stimulate the exchange and utilisation of knowledge. It also emphasises the implementation of processes or methodologies for the identification, generation, capture, and dissemination of knowledge. Additionally, knowledge management incorporates the use of technology for storing knowledge, ensuring accessibility, and facilitating collaboration among individuals, even in the absence of physical proximity (Bhojaraju, 2005:39). Cong and Panyda (2003) ascribe organisational culture to

*people*. The opinion is that such segmentation is unnecessary because organisational culture results from employee interactions.

The core issue in KM is ensuring that individuals or employees participate and collaborate in knowledge sharing and reuse of profitable business achievements (Nezafati, Razaghi, Moradi, Shokouhyar & Jafari, 2021). In several businesses, this calls for a shift away from *knowledge-hoarding* (the practice of keeping information secret or private) and toward *knowledge-sharing* (the practice of exchanging information among team members) as well as the development of a trusting environment (Wen & Ma, 2021:3). This is accomplished by combining various measuring systems, performance rating systems, and methods for incentive, recognition, and rewards (Bhojaraju, 2005).

According to Boruett, Ronoh, Kisirikoi and Dimba (2021:23), individuals who are not compensated for sharing their knowledge are less inclined to share their ideas and experiences with others inside the business. The studies emphasised that the value of social incentives is equally significant to that of monetary benefits (Kryscynski, Coff & Campbell, 2021). Knowledge transfer can be facilitated by an organisation's robust social culture. Desire for social cohesiveness and a sincere spirit of reciprocity grow inside this powerful culture. As per Jeon, Kim and Koh (2011:255), knowledge sharing within a company with a strong social culture is motivated less by altruism and more by ego. A worker will frequently share expertise in order to maintain his or her social position (Jarrahi, Philips, Sutherland, Sawyer & Erickson, 2019:318). Possessing or displaying unpleasant traits or attitudes could harm one's personal image. Knowledge exchange therefore grows to reduce this social and professional risk (Ali, Paris & Gunasekaran, 2019).

The ability to leverage people's knowledge for company success while giving them exposure, recognition, and credit as *specialist* in their fields of competence is a prerequisite for knowledge management success (Bhojaraju, 2005:40). Moreover, the author emphasises that "people are the most crucial component part, as KM depends on people's will to share information and reuse them."

### **3.8.2 Technology**

Technology is a further component of KM that makes it effective. The KM process relies on technology to enable the gathering and dissemination of human knowledge, promote collaboration, and provide open access to a diverse range of information (Bhojaraju, 2005:40). All stages of the knowledge lifecycle, such as the collection, organisation, storage, dissemination, and maintenance, must be supported by technology (Rus, Lindvall & Sinha, 2002). Technology can be used to facilitate conversations, drive negotiations, and facilitate communication, but it is not the core of knowledge management, according to Scott (2000). Technology merely processes information; it does not produce knowledge. Therefore, technology is an aid rather than a goal (Bhojaraju, 2005:40).

### **3.8.3 Process**

According to Bhojaraju (2005:40), process is the third element of knowledge management. The *process* aspect encompasses methodologies and established formats for documenting exemplary practices and case studies. It also includes procedures for contributing knowledge, managing content (including content acceptance, quality assurance, regular updating, removal, or archiving of outdated content), retrieval, participation in communities of practice, and the execution of projects founded on the reuse of knowledge. Processes must be as transparent, straightforward, and easily understood by all organisation-wide employees (Bhojaraju, 2005:40). The knowledge management process facilitates the generation, dissemination, and application of knowledge, fostering and endorsing such practices. Along with knowledge management procedures and their infrastructure, it is connected to general organisational infrastructure and processes (Dalkir, 2005, 48).

According to the above statements, processes can be further broken down into organisational processes and infrastructure, which are both associated with the capacity to support or inhibit knowledge management (Sandhwalia & Dalcher, 2011:315). KM must influence what is done, how it is done, and how well it is done in order to be useful. It follows that business processes constitute a crucial link between knowledge management (KM) and business outcomes (Mansour, Alhawari, Talet & Al-Jarrah, 2011:865). Through its capacity to enhance the effectiveness of business processes, KM may very well have the largest impact on important business results (Wu & Chen, 2014). This implies that an awareness of where and how knowledge contributes to the operation of the process should be considered when designing or redesigning business processes (Bitkowska, 2020). In essence, this is achieved by determining

the information required to take the decisions or activities that constitute the process, as well as by addressing factors connected to the knowledge produced by those decisions and actions (Bhojaraju, 2005:40).

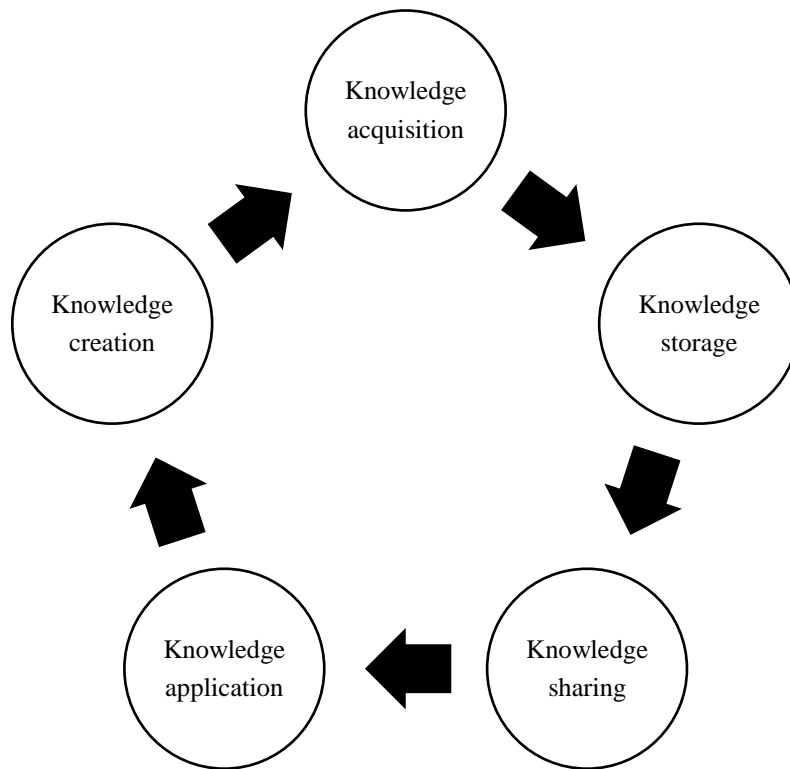
### **3.9 KNOWLEDGE MANAGEMENT PROCESSES**

Abualoush, Masa'deh, Bataineh, and Alrowwad (2018) define knowledge management processes as a series of activities conducted by an organisation to ease the acquisition and application of knowledge. The continual conversion of knowledge from one form to another is an inherent aspect of knowledge management. These processes facilitate the transformation of tacit knowledge into explicit knowledge and vice versa (Igbinovia & Ikenwe, 2017:30).

Knowledge management processes are the steps that an organisation takes to process and manipulate its knowledge assets (Al Ahabbi, Singh, Balasubramanian & Gaur, 2019:354). Several writers refer to them as knowledge management activities, while others refer to them as knowledge management tasks or knowledge management processes, although they all mean the same thing. They are the most important elements of the KM framework since they advise practitioners about the essential actions that must be completed to properly function with their knowledge resources.

Knowledge management refers to knowledge processes that keep organisational activities such as innovation, individual learning, group learning, and collaborative decision-making running smoothly (Areed, Salloum & Shaalan, 2021:145). In this study, the primary knowledge management processes, as recognised by Kordab (2020:1278) and illustrated in Figure 3.3, encompass knowledge creation, acquisition, storage, sharing, and application.

**Figure 3.3: Knowledge management processes**



Source: Adapted from (Bratianu, 2015; Ranjbarfard, Aghdasi, López-Sáez & López, 2014)

### **3.9.1 Knowledge creation**

The generation of knowledge is a dynamic process that arises from the relationship between existing knowledge and the act of knowing, facilitated through activities, practical experiences, and interactions with others (Maravilhas & Martins, 2019). To enhance their capabilities in innovation and technology development, organisations need to allocate adequate resources to the continual creation of new information (Abbas & Sağsan, 2019:614). This capacity of organisations to produce fresh ideas and solutions is commonly referred to as knowledge generation (Talebian, 2013:116). Furthermore, the author stresses the significance of motivation, suggestion, experience, and luck in the intricate process of knowledge creation (Talebian, 2013:116).

Knowledge creation is concerned with the development of information for the purposes of exploration and exploitation. Writing, both formal and informal; research; and collaborative problem-solving are all examples of ways to produce knowledge (Igbinovia & Ikenwe, 2017:30). The concept of creation pertains to an internal organisational process that fosters the cultivation of both tacit and explicit knowledge. This process originates with individuals and extends to the organisational environment, encompassing the recognition and assimilation of information and knowledge derived from external sources (Gonzalez & Martins, 2017:253).

The identification of necessary knowledge is made easier when an organisation creates knowledge. Internal and external stakeholders' internal and external knowledge is included in knowledge generation (Prabhakar, Reddy, Savinkina, Gantasala & Ankireddy, 2018:53). To stimulate innovation and maintain competitiveness, it is necessary to create knowledge from external stakeholders (Prabhakar *et al.*, 2018:53).

### **3.9.2 Knowledge acquisition**

Knowledge acquisition stands out as a crucial and challenging undertaking within KM, often entailing significant costs (Iqbal, Latif, Marimon, Sahibzada & Hussain, 2019:7). Actions taken by organisations to gather, extract, and systematically organise information from diverse sources constitute the process known as knowledge acquisition (Attia & Salama, 2018). Despite its involvement in obtaining explicit knowledge, the primary focus of knowledge acquisition revolves around tacit knowledge. Externalisation serves as a means by which tacit information can be transformed into explicit knowledge, involving the documentation of tacit knowledge in papers or databases for others' reference (Igbinovia & Ikenwe, 2017:30).

In accordance with Almahamid and Qasrawi (2017), the majority of workers acquire knowledge from internal channels, including team members and colleagues. Consequently, heightened familiarity among employees correlates positively with increased productivity. Knowledge obtained from consumers, rivals, suppliers, partners, and experts is referred to as external knowledge acquisition (Mothe, Nguyen-Thi & Triguero, 2018). The goal of knowledge acquisition is to learn about customers' wants as well as their experiences with the company's goods and services. Organisations are making relevant adjustments as a result of this, resulting in increased economic sustainability and customer happiness (Wijethilake, 2017).

### **3.9.3 Knowledge storage**

The preservation of acquired knowledge is imperative, necessitating careful conservation to ensure future retrieval and utilisation, all while considering the legacy for posterity (Gonzalez & Martins, 2017:254). The phase of knowledge storage describes the formation of organisational memory, wherein information is systematically recorded in physical memory systems and informally retained as cultural values, rules, and beliefs intertwined with organisational structure (Gonzalez & Martins, 2017:254).

In accordance with Fombad and Sirorei (2019:3), it is crucial for all employees within an organisation to possess access to the knowledge base, facilitating the acquisition of essential information crucial for performing their duties and making informed decisions. Nevertheless, the efficacy of this knowledge is contingent upon consistent storage resulting from KM activities; otherwise, the accumulated information loses its utility for subsequent decision-making. Conversely, Kiessling, Richey, Meng, and Dabic (2009:421) determined that the primary objective of knowledge storage, often referred to as a knowledge *repository* in the field of knowledge management, is the compilation of documents containing pertinent information. These documents are systematically stored, ensuring easy accessibility for future reference.

### **3.9.4 Knowledge sharing**

Knowledge sharing constitutes a critical element within the field of knowledge management, intricately linked to the proficient use of knowledge assets (Abualoush *et al.*, 2018:284). Ikenwe and Igbinovia (2015) posit that knowledge sharing stands as a fundamental focus in knowledge management, characterised by the deliberate exchange and dissemination of

acquired information, knowledge, ideas, skills, and experiences among individuals and institutions.

The practice of communicating explicit or tacit information to an individual or group of individuals is known as knowledge sharing (Jarrahi, 2018). Enterprise commonly engages in a prevalent form of social interaction facilitating creative problem-solving among employees (Attia & Salama, 2018). Furthermore, this practice provides valuable support in the formulation of plans, decision-making processes, and the establishment of a conducive learning environment (Bolisani & Bratianu, 2018). Knowledge sharing improves employees' explicit and tacit knowledge, which leads to fewer accidents and misunderstandings, as well as increased technical and financial efficiency (Abbas & Sağsan, 2019:614).

Knowledge sharing within an organisation, as emphasised by Alegbeleye (2010), serves as a crucial facilitator for leveraging its information. A paramount rationale for extending individual knowledge across the entire business is to avert the loss of valuable insights in the event of an employee departing the company (Dhamdhare, 2015a). In order to foster a culture of knowledge sharing and counteract tendencies toward knowledge hoarding, an organisation is compelled to implement targeted measures, such as incentives (Igbinovia & Ikenwe, 2017:31).

### **3.9.5 Knowledge application**

As data disseminates among the workforce within an organisation, its application becomes crucial for issue resolution and performance improvement. Dhamdhare (2015a) emphasises that the effectiveness of the knowledge management process depends on the accurate application of acquired, stored, created, and shared information. Failure in this application renders the entire process futile, stressing the necessity to communicate the knowledge management process to users for ensuring its proper implementation. In simpler terms, information must be efficiently and effectively employed to address specific requirements (Igbinovia & Ikenwe, 2017:32).

The goal of knowledge management is to put the knowledge that the institution has at its disposal to use, which is done via practise and practical application of the knowledge that has been developed (Abusharekh, Ahmad, Arqawi, Abu-Naser & Al Shobaki, 2019:5). Since knowledge application is dependent on accessible knowledge, knowledge input must be focused directly on enhancing organisational performance in decision-making and functional

settings. Successful knowledge management is one that makes timely use of accessible information without missing the potential to utilise it for a competitive advantage or to address a problem (Abusharekh *et al.*, 2019:5). Institutions desiring good application of knowledge must choose a knowledge manager who has the responsibility of promoting good application, and that knowledge manager works as a devoted component of knowledge exchange and rigorous application execution.

An examination of the application of knowledge relies on enhancements in processes, assimilation of best practices, collaborative efforts, and individual conduct (Prabhakar, Reddy, Savinkina, Gantasala & Ankireddy, 2018:53). As asserted by Prabhakar *et al.* (2018:53), knowledge management necessitates a transformation in the behaviour of employees. The combination, contemplation, and cooperative utilisation of knowledge by individuals are crucial aspects contributing to the enhancement of overall quality.

### **3.10 KNOWLEDGE MANAGEMENT SYSTEMS**

Various scholars have explained knowledge management systems (KMS) from diverse perspectives. Knowledge management systems is commonly conceptualised as a tool or a convergence of technologies designed to facilitate knowledge management processes (Gallupe, 2000). In essence, KMS encompasses the establishment of knowledge repositories, enhancement of information acquisition and dissemination, collaborative interaction, protection of the knowledge environment, and the strategic management of knowledge as a valuable organisational asset. In this framework, KMS can be perceived as a mechanism or a suite of information and communication technologies exploited for the storage, distribution, collaboration, and outlining knowledge sources, thereby supporting the creation, accumulation, sharing, retrieval, and application of knowledge by individuals and entities (Yates & Paquette, 2011).

Knowledge management systems or technologies, as per Egbu, Quintas, Anumba, Kurul, Hutchinson, Al-Ghassani and Ruikar (2003), are a combination of hardware and software that help in the application of KM. Moreover, the fundamental of hardware technologies in knowledge management systems lies in their provision of a foundational framework for the operation of software technologies. Additionally, they serve as a channel for both storing and transmitting information. Moreover, the following are several technologies that can help in knowledge creation, acquisition, storage, sharing, and application (Igbinovia & Ikenwe, 2017:32; Abdelrahman, 2013).

### **3.10.1 Content management systems (CMS)**

A content management system (CMS) denotes a software application enabling the creation and modification of digital content (Patnaik & Mishra, 2015). Its common use involves fostering collaborative efforts among multiple users within a shared environment (Dave & Koskela, 2009). The production, administration, and dissemination of material on an intranet, extranet, or website is the main responsibility of the content management system (Barker, 2016). This also identifies content writers and supports collaborative efforts in order to improve the quality of explicit information and enhance tacit knowledge transfer (Igbinovia & Ikenwe, 2017:32).

### **3.10.2 Database management system (DBMS)**

A database, as described by Igbinovia and Ikenwe (2017:33), is a collection of interlinked files employed for the retention and conservation of an organisation's data. The acronym "DB" denotes a database, comprising interconnected data stored in direct access storage on a computer through applications like database management systems. Facilitating the structured handling of data, a database management system empowers users and programmers to construct, retrieve, update, and oversee data effectively (Igbinovia & Ikenwe, 2017:33).

### **3.10.3 Decision support systems**

These consist of resources that may well be utilised to assist existing and appropriate organisational knowledge when deciding on the best course of action (Ghasemaghaei, 2019). Data mining, simulators, and online analytical processing are only a few examples of such technology. Users are granted information in a manner that allows them to make meaningful decisions swiftly (Jain, Shao & Shin, 2017).

### **3.10.4 Intranet infrastructures**

These enable the storage, sharing, searching, and access of records and information in addition to providing the fundamental capability for communication via tools such as email and teleconferencing (Satra, Lantara, Salim, Azis & Fattah, 2018).

### **3.10.5 Groupware**

These robust collaborative instruments serve to augment cooperation, facilitate the exchange of information, and foster communication within cohorts of individuals operating collectively within an enterprise (Igbinovia & Ikenwe, 2017:33). Groupware is a kind of technology that allows the interchange of thoughts via network to cooperate and communicate more effectively and foster cooperation; this technology offers access to internet, intranet, online meeting platforms, video conferencing, e-mail, and other technologies (Naidoo, 2021; Obermayer, Gaál, Szabó & Csepregi, 2020; Underwood, 2017). Facilitating collective decision-making in distributed and virtual project teams is efficacious, particularly when team members comes from diverse organisations and are situated in geographically dispersed locations (Gibbs, Kim & Boyraz, 2017:5).

### **3.10.6 Data warehouse**

This is the organisation's main warehouse for crucial data storage. This combines information from one or more sources that are fundamentally distinct (Chandra & Gupta, 2018). However, the focus is on collecting data from many sources such that it is easily accessible (Sadowski, 2019).

### **3.10.7 Business intelligence tools**

These support the data analysis that converts disorganised organisational data into knowledge that is goal-oriented (Cao & Cao, 2018).

### **3.10.8 E-mail**

This is undoubtedly the most widely utilised interactive communication method for speeding up information sharing between people and companies. It aids in fostering teamwork and knowledge exchange among team members within an organisation (Igbinovia & Ikenwe, 2017:33).

### **3.10.9 Knowledge portals**

Portals refer to web-based applications or websites designed to disseminate information to a broad audience or an entire organisation. In contrast, knowledge portals are specialised online platforms providing a centralised entry point for both tacit and explicit knowledge, facilitating members of a company in achieving their corporate objectives., the knowledge portal actively

fosters both asynchronous and synchronous communication among users and knowledge providers (Igbinoia & Ikenwe, 2017:32). Distinguishing between asynchronous and synchronous collaboration, the former does not require participants to coexist or share data simultaneously, allowing flexibility in engagement over extended periods. Conversely, synchronous collaboration empowers geographically dispersed users to collaboratively work in real-time via the internet, collectively exploring, retrieving, filtering, separating, and processing information available on the web (Igbinoia & Ikenwe, 2017:32). The acquisition, categorization, sharing, publication, and personalization of essential knowledge within a knowledge portal play a pivotal role in addressing issues. By enabling numerous workers to collaboratively focus on generating a coherent response across time, the knowledge portal becomes instrumental in ensuring corporate success (Igbinoia & Ikenwe, 2017:32).

#### **3.10.10 Workflow management system**

A software-based system, operating on one or more workflow engines, is responsible for defining, creating, and overseeing the execution of workflows. This system has the capability to interpret process definitions, engage with workflow participants, and, when necessary, initiate the utilisation of IT tools and applications (Casanova, da Silva, Tanaka, Pandey, Jethwani, Koch, Albrecht, Oeth, & Suter, 2020).

Effective KMSs have a crucial role in the future development of organisations across all industries. Knowledge management systems, as outlined by Turban, Sharda, and Delen (2010), are crafted to aid organisations in navigating rapid changes, turnovers, restructuring, and effective knowledge utilisation. They achieve this by facilitating the accessibility of the collective wisdom of an organisation's human capital (Abdelrahman, 2013:46). The implementation of knowledge management systems can contribute to the efficient management of knowledge by ensuring the seamless flow of information from those possessing it to those in need throughout the entire enterprise (Abdelrahman, 2013:46).

### **3.11 KNOWLEDGE MANAGEMENT MODELS**

The primary goal of knowledge management models (KMMs) is to transform data or information into a reusable format, with the purpose of preserving, enhancing, disseminating, combining, and processing knowledge (Mohajan, 2017:12). Organizations utilise these models to systematically acquire, store, and analyse knowledge, aiming to gain a competitive advantage over their counterparts. These models play a crucial role in the implementation of

knowledge management in organisations seeking to establish such practices (Mohajan, 2017:12). The knowledge management models discussed in this study are attributed to Nonaka and Takeuchi (1995), Boisot (1998), Frid (2003), Hariharan (2005), and Ologbo and Nor (2015).

In a competitive business environment, the implementation of enterprise knowledge management models presents genuine opportunities for organisational development. Successful knowledge management involves synthesizing elements from both concepts, illustrating the close connection between the company and intangible assets to generate value (Toszevska-Czerniej, 2015:186). This value doesn't directly hinge on individual employee functions but rather on the interactions among employees, customers, and management. When all stakeholders actively engage in the process, the company can generate value based on the knowledge management model. In this regard, integrated management is effectively, dynamically, continuously, and extensively put into practice (Toszevska-Czerniej, 2015:186).

The management of knowledge involves a number of organisational principles, a basic framework, to assist in identifying various sorts of activities and tasks needed to operate, both inside and outside an organisation (Cristea & Căpațină, 2009:355). These general frameworks are provided in the form of knowledge management theories and models. Many models involving knowledge management may be found in specialist literature. The establishment of knowledge production, as outlined by Nonaka and Takeuchi in 1995, revolves around the dynamic interplay between tacit and explicit knowledge within the organisational framework (Mohajan, 2017:12). While Boisot (1998) presents three uncoded, tangible to abstract and non-diffused axes for three-dimensional knowledge management models.

In the area of knowledge management, Frid (2003) described a structured model comprising five distinct levels: chaotic knowledge, knowledge-based knowledge, knowledge management, and the know-how centre. On the contrary, Hariharan (2005) introduced a comprehensive 360-degree approach across six thematic dimensions which are discussed in the next sections. Emphasising the disentanglement within six interconnected facets of pooled knowledge and skills, this approach spans both internal and external organisational fields, specifically targeting the paramount business Key Performance Indicators (KPIs) (Hariharan, 2005). Another noteworthy model, termed *The 7-circle model*, was conceived by Ologbo and Nor in 2015. This model incorporates key components such as KM initiative, KM culture, KM people, KM

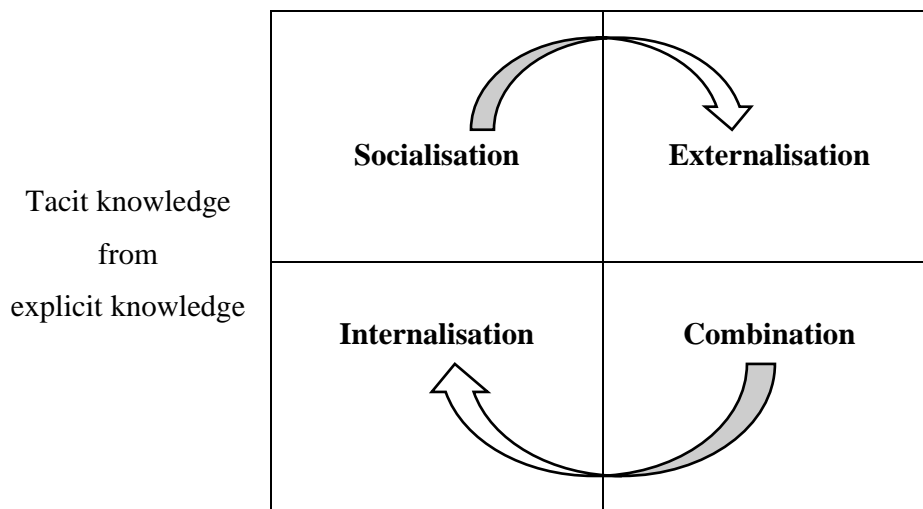
mechanisms, KM technology, KM interaction, and KM motivation. A detailed exploration of each of these models is presented in the following discussion.

### **3.11.8 Nonaka-Takeuchi model**

This approach was developed following a study into the success, creativity, and innovation of several Japanese businesses. Nonaka and Takeuchi (1995) found that this achievement did not come from a mechanical treatment of objective knowledge, but rather from highly subjective aspects (metaphors and symbols) (Cristea & Căpațină, 2009:357).

The two experts, Nonaka and Takeuchi (1995), suggested that the tacit knowledge method is a significant component for any organisation. Oriental culture, on the other hand, believes in unity: human beings, nature, bodies and minds, individuals, and others. Knowledge is largely not located in the individual but in groups and is simple to convert, exchange and transmit in such a setting. Nonaka and Takeuchi (1995) highlight the need to combine both elements of an individual and group so that superior instruments may be obtained. At the individual level, the production of knowledge usually begins. The availability at each level of the organisation constitutes the basis of the Nonaka model. In all the divisions of the company, knowledge is created as a continuum. There are four ways (socialisation, externalisation, internalisation and combination) to transform knowledge, according to the Nonaka and Takeuchi (1995) models, representing the *engine* of the complete system of expertise creation. The development of organisational knowledge is the expansion and translation of individual knowledge into broad applied knowledge. The next figure shows the phases in the knowledge production process (Cristea & Căpațină, 2009:357).

**Figure 3.4: Knowledge conversion in Nonaka-Takeuchi model**



Source: Nonaka & Takeuchi, 1995

Socialisation is the sharing of knowledge through direct social contact. Additionally, it involves achieving mutual understanding. Since it is instinctual, it is one of the easiest forms of knowledge transfer. The biggest benefit of socialisation is also its greatest detriment, because it is almost rarely documented or kept, because information stays implicit. Davenport and Prusak (2000) stress that “complex, tacit information, generated and absorbed by someone who owned it, can hardly be replicated in a document or database for a long time.” Such information contains so many aspects that it is impossible to separate the rules that describe it. This refers to the concept of not strictly connected to language, but to experience and the possibility of transmitting it, when fresh, tacit knowledge is obtained (Cristea & Căpațină, 2009:358).

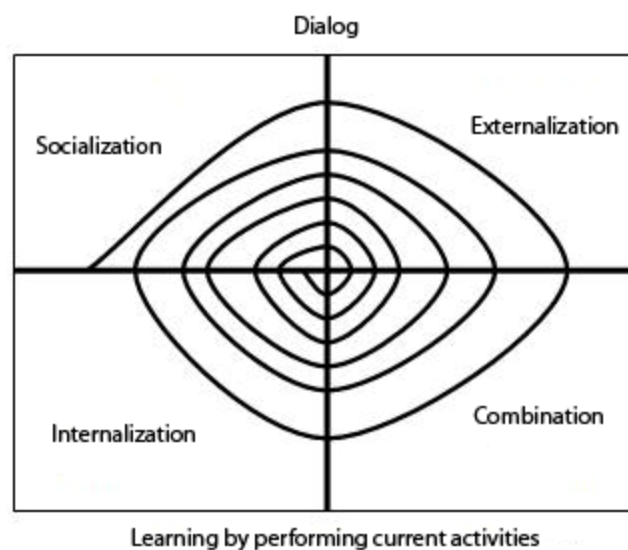
The process of externalisation gives a concrete form of silent information through its conversion to explicit knowledge. The members of staff are able to identify and use knowledge structures under particular situations. Once outsourced, knowledge is concrete and physical. It may be shared and distributed simply throughout an organisation. Subsequently, the following can be initiated; to develop, manage, update, research and publish electronic information or digital media formats utilising content management systems. It is vital to keep knowledge makers informed during the change from tacit to explicit (Cristea & Căpațină, 2009:358).

In combination, it may be comprehended that the process of combining knowledge to obtain new forms of knowledge. It is a novel combination or representation of a current knowledge that no knowledge is generated by itself. Therefore, when concepts are classified and

systemised in a knowledge system, a combination occurs. Internalisation is the final stage in the conversion of knowledge (explicit to tacit). This is accomplished through spreading and engaging a new understanding (Cristea & Căpațină, 2009:358).

Internalisation can be combined with the learning process through practice. This is converting or integrating our knowledge into mental models to finally rebuild it in a different foundation of knowledge. The transformation process is passed on through knowledge, experiences, best practices, and lessons learnt, but at an intermediate stage it is difficult to halt (Cristea & Căpațină, 2009:358). It will become valuable for the firm only if the knowledge is internalised in the knowledge base in accordance with some mental models that can be shared. It is recommended that this procedure needs to be repeated continuously for the formation of knowledge. Tacit knowledge collected at individual basis must be socialised with other individuals to generate a spiral that depicts the production of knowledge – which we can argue is not a sequential model (Cristea & Căpațină, 2009:358).

**Figure 3.5: Nonaka and Takeuchi knowledge spiral**



Source: Cristea & Căpațină, 2009:358

Figure 3.5 shows how individual tacit knowledge is formulated, organised, and systematised by organisations. The notion is held that the most formidable stages within the cyclical progression of knowledge involve alterations in the essence of knowledge, specifically externalisation and internalisation. It is necessitated that methodologies that demonstrate consistent, systematic, and logical

processes devoid of contradictions. The criteria for organisational knowledge development are outlined by Nonaka and Takeuchi (1995):

- Intention: Stated by the organisation to achieve its aims (formulating strategies in business context).
- Autonomy: When people act independently in teams with the self-organising ability, according to some basic requirements.
- Fluctuations and creative chaos: A special situation stimulating the interaction of the organisation with the outside world.
- Redundancy: Information that surpasses the operational demands of the members of the organisation
- Variety: Internal diversity that gives a range of knowledge for every employee.

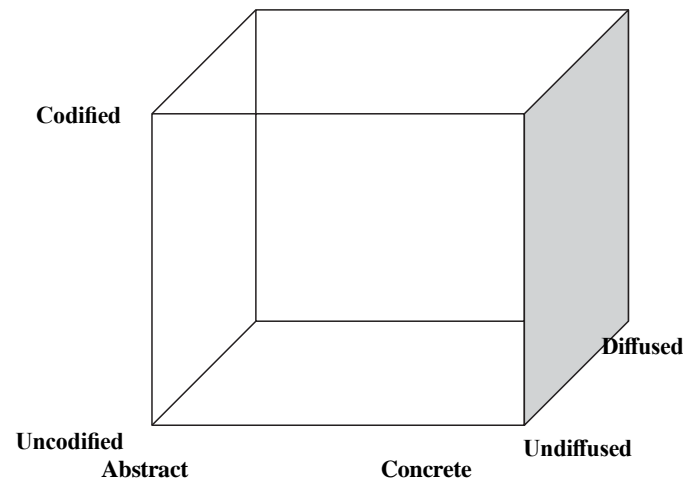
### **3.11.9 Boisot model**

In 1987, Boisot introduced a three-dimensional model termed I-space for the development of knowledge. This framework is grounded in the concept of information assets, distinct from physical assets. Within an organisation, knowledge is classified as either codified or uncodified, and diffused or undiffused. The Socialisation Externalisation Combination Internalisation (SECI) model proposed by Nonaka and Takeuchi in 1995 introduces an additional *abstract* dimension. Boisot (1998) draws a distinction between information and data by emphasising that information is derived from data through the lens of an observer, guided by pre-existing expectations or knowledge. The purpose is to infuse the information with meaning and significance. Consequently, I-space serves as an interpreter, compiler, and generator of knowledge, as outlined by Boisot (1998). This model provides a systematic approach to comprehend the flow of knowledge in society and the associated knowledge management processes (Mohajan, 2017:25).

In Boisot's (1998) discussion, two primary assertions are put forth: firstly, the ease of transforming information directly correlates with its propensity for widespread dissemination; secondly, a lack of organisational structuring of data enhances its diffusibility, necessitating a shared contextual framework for effective dispersion. The model posits the conceptualisation of knowledge as either codified or uncoded within the organisational context, and as either diffused or uncontrolled. The Boisot information space (I-Space) introduces a 3D dimensional

perspective illustrated in Figure 9, encompassing the axes of i) codification from uncodified to codified, ii) concreteness from concrete to abstract, and iii) diffusion from undiffused to diffused (Boisot, 1998).

**Figure 3.6: Boisot I-Space model**



Source: Boisot (1998).

Boisot's knowledge management model highlights the tacit form of knowledge by emphasising that the loss of context caused by codification can cause the loss of important material in many circumstances. This approach integrates a theoretical basis for social learning and acts as a very effective link between content, information, and KM (Mohajan, 2017:26).

Information undergoes organisation and interpretation via diverse coding and abstract procedures. The term explained in this context pertains to knowledge that can be systematically arranged and refined for distribution purposes, notably in the field of financial information. A reduction in the number of categories within the codification system tends to increase abstraction. According to the Boisot model, the act of codification often leads to the loss of context, thereby potentially depriving valuable knowledge (Mohajan, 2017:26).

Proprietary knowledge, when codified and restricted in dissemination, is intentionally transferred exclusively to a select few individuals with a requisite *need to know*. In contrast, uncoded knowledge, encompassing elements like experiential insights, is challenging to promptly articulate for the purpose of transmission. The recommended approach advocates categorising individual knowledge, including experiences, opinions, perceptions, and ideas, under the umbrella of undiffused knowledge (Mohajan, 2017:27). Within the model outlined,

the left side specifically addresses public knowledge and common sense, as outlined in Table 3.2. Public knowledge, exemplified by resources like libraries, books, journals, and newspapers, is systematically codified and disseminated. Conversely, a comparably widespread yet uncoded form of common sense knowledge has the potential to gradually emerge through the societal and globalisation processes (Mohajan, 2017:27).

**Table 3.2: Boisot’s knowledge category model**

Codified

Propriety knowledge	Public knowledge
Personal knowledge	Common sense knowledge

Uncodified

Undiffused

Diffused

Source: Boisot (1998)

This model suggests that the horizontal dimension signifies the distribution or transmission of information among organisations. Nevertheless, the model distinguishes between codified and uncoded categories of information. Once more, the notion of disseminated knowledge is broadly defined and lacks specificity, encompassing both the gathering and transmission of information within an organisation (Haslinda & Sarinah, 2009).

The global space for international activities establishes a foundational and rational framework, incorporating systematically organised information more swiftly and extensively than knowledge lacking structure (Boisot & Child, 1996). The structure of the International Space (I-Space) relies on two cognitive processes: codification and abstraction. Codification explains the categories that shape our comprehension of the world. Abstraction, on the other hand, reduces the multitude of categories essential for grasping phenomena. In instances of robust correlations between two groups, one can effectively substitute the other. Codification facilitates the differentiation of categories and the requisite association for achieving abstraction. Consequently, this process diminishes the cognitive load associated with the act of categorisation (Canals, Boisot & MacMillan, 2004).

The broader the level of abstraction and codification, the broader the population that can receive dissemination over a specific duration. Codification, abstraction, and diffusion represent just one facet within a larger framework of social learning (Boisot, 1998). In instances where information deviates from existing systems, it prompts the pursuit of modifications and adjustments. Piaget (1967), characterises this as a scanning procedure facilitating assimilation and accommodation. Boisot (1998), subsequently outlines a six-step process within the I-Space model of the social learning cycle (SLC), encapsulating the described procedure.

**Scanning:** This encompasses non-codified environmental knowledge, manifesting expeditiously when data is precisely articulated and abstract, or alternatively, when data lacks coding and is contingent on context. In the field of publicly accessible yet dynamically changing data, such as weak signals, it determines both hazards and prospects. It cultivates a novel perspective within the framework of specific models inherited from an individual or a group (Canals *et al.*, 2004).

**Problem resolution:** It imparts structure and coherence by rectifying issues associated with this comprehension, leading to the codification of knowledge. In this stage, entities assume a distinct form, and a substantial amount of ambiguity is eliminated. Challenges originating in the uncoded I-space domain often pose risks and contribute to conflicts (Boisot, 1998).

**Abstraction:** When a wide range of situations apply new, codified information, it is more abstract in its nature (knowledge becomes more abstract). The key qualities of a scenario are to be achieved (conceptualisation). Problem resolution and abstraction often co-operate. A wide number of applications show the generalisation of the implementation of new codified views (Cristea & Căpațină, 2009).

**Diffusion:** It facilitates the exchange of recently generated knowledge among designated individuals. Distributing well-codified abstract material to a broad audience poses fewer technical challenges than disseminating uncoded content, leading to the diffusion of knowledge. Enhancing the dissemination rate of uncoded knowledge necessitates establishing a contextual link between the sender and recipient. The probability of a shared context is inversely proportional to the population size (Canals *et al.*, 2004).

**Absorption:** This phenomenon arises when information is employed across various scenarios, resulting in the generation of novel, non-codified individual learning. Tacit knowledge is reinstated, wherein knowledge is assimilated and gives rise to learned behaviour, consequently

transitioning into an uncodified or tacit form. Over time, these codified insights contribute to a realm of unencoded knowledge, potentially influencing their application in specific situations. The emerging codified perspectives dynamically engage with uncodified visions, creating a complex interplay between the two (Canals *et al.*, 2004).

**Impact:** It is conducted by integrating abstract knowledge into corporate operations as a rule, policy, and method (knowledge becomes concrete). It covers real-life information, technological standards, organisational regulations, or behavioural conducts. Absorption and impact frequently operate together (Boisot, 1998).

The social teaching cycle (SLC) proposed serves as an extremely efficient connection to content, information and knowledge management; the codification dimension is connected to categorising and classification, and the dimension of abstraction is linked with knowledge creation through analysing and understanding (Boisot & Canals, 2004). The Boisot I-Space KM model has good prospects for mapping and managing the knowledge assets of an organisation as the social learning cycle. In I-Space, usefulness may be accomplished by pushing the space up to higher coding and abstraction levels. In I-Space, maximum value is attained when codification and abstraction have the most value and diffusion is the lowest. The Boisot approach seems less familiar and less accessible and has therefore not been implemented widely. Further comprehensive field testing would give suggestions on its use and provide more guidance on how the I-Space method is best implemented (Boisot, MacMillan, Han, Tan & Eun, 2003). The notion of Boisot supports codification thinking to transmit knowledge expressions to others (Davenport & Prusak 1997).

An agent invokes both costs and risks when it moves across a social learning cycle (SLC). The cycle cannot be finished with no assurance. Boisot's and Nonaka and Takeuchi's models make it apparent that the process to generate and develop knowledge assets is continually changing, and therefore the KM strategy, as it is, needs to adapt in time when knowledge goes through the corporate study cycle into a new stage (Shannak, 2009). The Boisot approach continues to change the process of generating and developing knowledge assets in companies. So, businesses must develop a dynamic KM approach that adapts to the dynamic nature of the corporate training cycle (Boisot *et al.*, 2003).

### 3.11.10 Frid's KM model

According to Frid's (2003) classification, the KM framework, KM maturity assessment, and the implementation of KM are described into five distinct stages: knowledge chaotic, knowledge aware, knowledge focus, knowledge managed, and knowledge centric, as illustrated in Figure 3.7.

**Level 1: Knowledge chaotic** This statement suggests that organisations at this stage understand and implement the KM framework proposed by Frid, which includes a comprehensive approach involving KM vision, goals, and indicators. Consequently, the organisation should prioritise not only promoting and familiarising the departmental KM concept but also aligning it with objectives, while concurrently conducting Frid's framework KM maturity assessment as outlined by Frid's (2003).

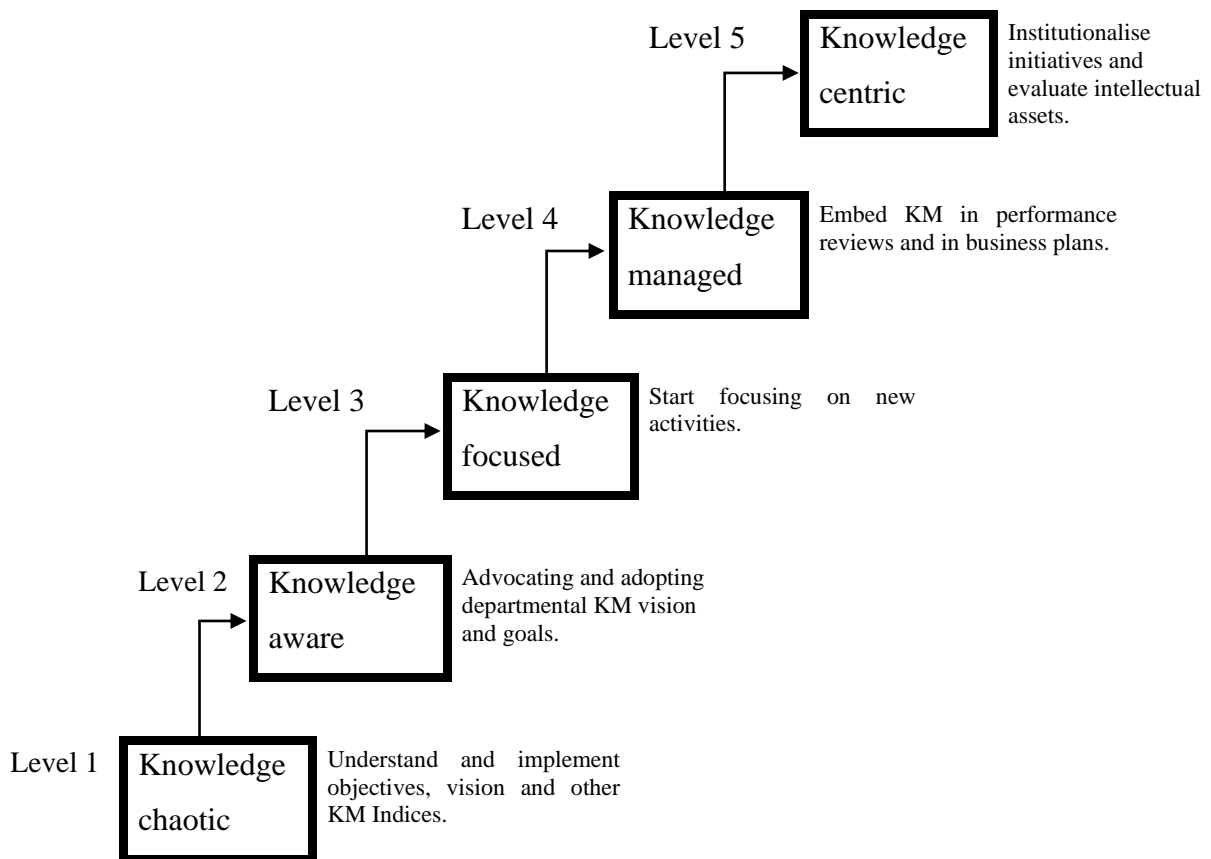
**Level 2: Knowledge aware:** It suggests that at this level companies are one step higher than they are at level 1. In addition, for Frid's understanding and implementation of a KM framework, the organisations should at this moment focus on establishing a KM road map and working cooperatively with the KM office to advocate for and achieve the departmental KM vision and objectives (Frid, 2003).

**Level 3: Knowledge focused** implies that the implementing parts of levels 1 and 2 have been addressed. Organisations are concentrating on five new activities as: i) process engineering; ii) delivery of basic KM Infrastructure, training and services; iii) community knowledge support; iv) management index monitoring and reporting; and v) budget KM (Frid, 2003).

**Level 4: Knowledge managed:** The core activities of Level 1 through Level 3 have been modified. In performance assessments and business plans individually, organisations should try to embed KM (Frid, 2003).

**Level 5: Knowledge-centric:** It is the greatest of all maturity levels for implementation according to the Frid model. The unique and distinguishing operations on which companies must focus are to institutionalise and appreciate successful projects. These actions are different from previous degrees of understanding. In addition, all KM efforts at this level should be given equal priority (Frid, 2003).

**Figure 3.7: Frid’s knowledge management model**



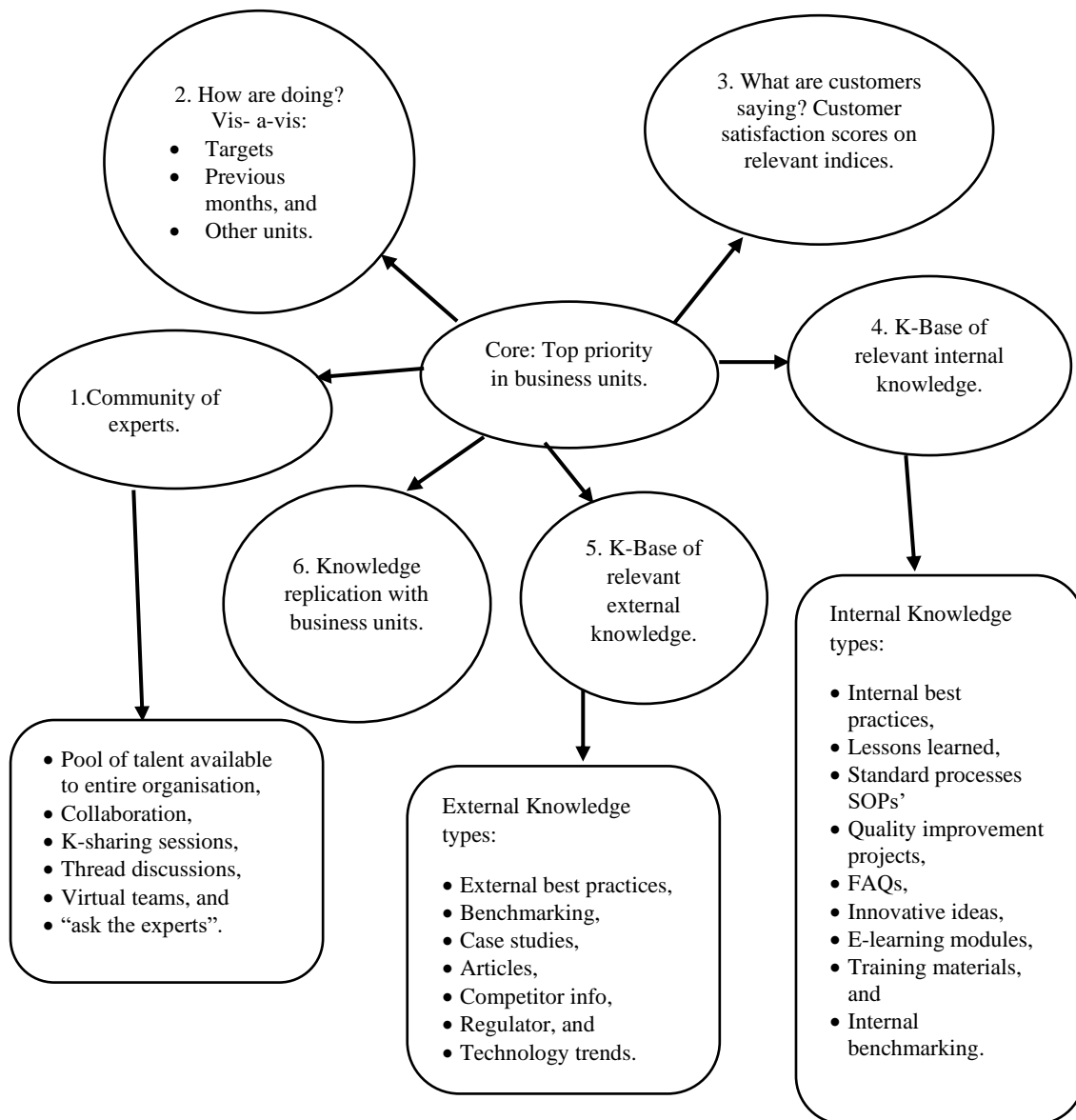
Source: Frid (2003)

### 3.11.11 The 360-degree knowledge management model

A 360-degree method to information flow was developed by Hariharan (2005). This method describes the synergistic strength of knowledge and skill emanating from both internal and external spheres of the organisation. Through the 360-degree KM system, each designated knowledge champion and expert facilitates comprehensive access to the entirety of knowledge and expertise available, whether originating from within or beyond the company's confines. It allows them to better, quicker and through zero reinvention to manage and enhance their performance on these criteria (Hariharan, 2005).

The six dimensions of this model are presented in Figure 3.8. In the central core of this model with six circles around it, this method symbolises business action as a major focus. 360-degree KM develops a knowledge repository for each of the top priority measures that assist the champion of knowledge and experts to enhance the performance of the measure (Hariharan, 2005).

**Figure 3.8: The 360-degree knowledge management model**



Source: Hariharan (2005)

**Dimension 1:** Led by an intellectual, it is esteemed as the paramount element, facilitating uncomplicated entry for every member within each community to the broader community. This cultivates cooperation and establishes a collective reservoir of talents accessible both internally and externally (Hariharan, 2005).

**Dimension 2:** For each community, the internal measuring system and dashboard are utilised to offer the professionals and experts with an opportunity to analyse their measurement

performance across functional departments, time periods and against benchmarks or objectives. It helps you comprehend where you are and where you must go (Hariharan, 2005).

**Dimension 3:** It is the customer's voice that is significant in every priority measure. Organisations can determine one or more customer satisfaction measurements in relation to each of their top priority internal measures using the customer satisfaction system (Hariharan, 2005).

**Dimension 4:** It constitutes the fundamental knowledge base encompassing all internal information that can empower knowledge champions and experts in their prioritised business activities, facilitating a growth of their performance. Internal knowledge encompasses a spectrum, spanning best practices and insights shared by personnel, well-established standard procedures, and initiatives aimed at elevating quality, inventive concepts, frequently asked questions, internal reference resources, e-learning modules, and training materials (Hariharan, 2005).

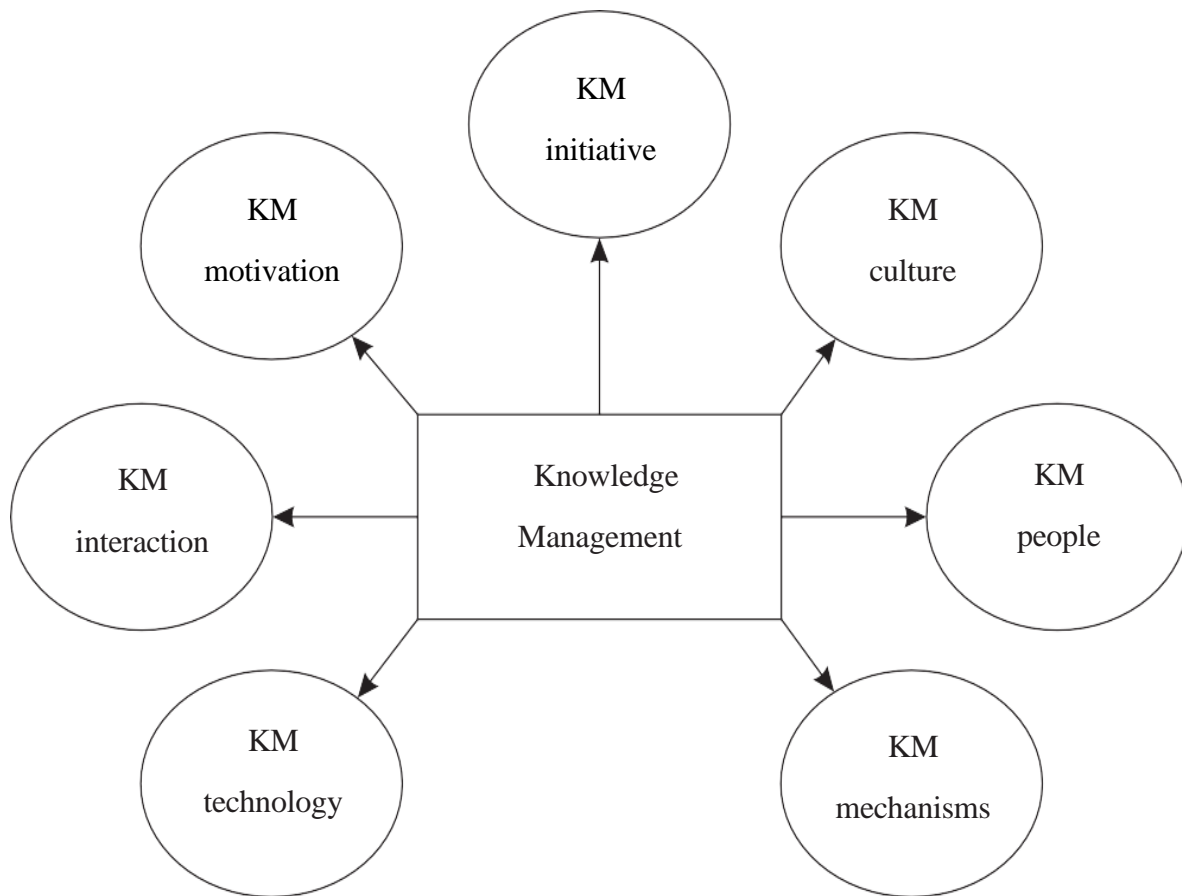
**Dimension 5:** This repository encompasses a wealth of external information aimed at enhancing the proficiency of knowledge champions and experts in their foremost priority domain. External knowledge may encompass optimal practices from external sources, case studies, publications, market insights, information on consumers and competitors, regulatory landscapes, and technological trends (Hariharan, 2005).

**Dimension 6:** It comprises all knowledge-based reconstructions or implementations leading to improving performance in the corresponding main strategic metric. Each completed knowledge replication with proven business outcomes in the corresponding knowledge repository must be documented and published. New knowledge is contributed to the knowledge base while replicating knowledge. Therefore, nearly every repetition not only results in business but adds new information to the basis of knowledge. KM is an unending loop and stores of knowledge continue to expand whenever knowledge is duplicated (Hariharan, 2005).

### **3.11.12 The 7-circle Knowledge Management Models**

The seven-circle KMM is built on seven components (Ologbo & Nor 2015): KM initiative, KM culture, KM people, KM structures, KM technology, KM interaction, and KM motivation. They are used to demonstrate the main approaches to manage organisational knowledge properly (Figure 3.9) (Mohajan, 2017:41).

**Figure 3.9: The framework of the 7-circle model**



Source: Ologbo and Nor (2015)

**Circle 1, KM initiative:** It is a strategically important part of the KM process. It is vibrant and may be created at all levels of the business, for instance, senior management, line managers or operational personnel. To oversee the organisational growth process, it is necessary for senior management to invest in cash, strategies and flexible policies. It is also accountable for the time, involvement, and support of workers at all levels (Ologbo & Nor 2015).

**Circle 2, KM culture:** It is vital for the organisation to build a KM culture that lives in the people of the company after the KM initiative has been developed. The organisational culture impacts a range of decisions and results in individual, group and organisational KMs (Ologbo & Nor, 2015).

**Circle 3, KM people:** Knowledge in the human brain is generated and established. Knowledge cannot be thrived without the desire and collaboration of people. The evolution of an organisation depends on the correct choice of individuals (Davenport & Volpel, 2001).

Individuals serve as repositories of knowledge and should be present at the organisational level within every department, unit, and team. The responsibility to create, disseminate, and utilise knowledge lies with all employees (Ologbo & Nor, 2015).

**Circle 4, KM mechanisms:** Considering the complexities inherent in the KM mechanism, it is imperative for every business to determine and adopt the appropriate methodology to support both its personnel and technologies. Numerous prosperous organisations have incorporated KM frameworks, such as Communities of Practice (CoP) (Ologbo & Nor 2015).

**Circle 5, KM technology:** Knowledge management technology plays a pivotal role in enhancing the efficiency of a company's KM processes and overall performance. Specifically, information and communication technology stands as a vital element within data mining, knowledge repositories, storage facilities, decision-making support systems, and ensuring convenient information access for business personnel (Ologbo & Nor, 2015).

**Circle 6, KM interaction:** Managing KM interactions helps companies to maintain a balanced strategy based on humans and technology. Organisational people, the culture of organisations, structures, working procedures and technology are interrelated and interact closely to give organisational performance value (Ologbo & Nor, 2015).

**Circle 7, motivation:** Motivation plays a crucial role, as the effectiveness of knowledge management practices cannot be achieved solely through infrastructure, technological involvements, or financial investments; without motivated individuals, these efforts are rendered ineffective (Ologbo & Nor, 2015). Moreover, Rhodes, Hung, Lok, Lien and Wu (2008) emphasised that reward is a good incentive for knowledge management.

In general, from the afore-mentioned knowledge management models. One can realise that KMM provides a renewed energy, path of knowledge distributing hub and corporate leadership and practices (Mohajan, 2017:43). Every organisation needs a KM policy for sustainable development in the 21st century, and KMMs will aid in the growth and survival of the organisations. This study aims at developing a framework for the implementation of knowledge management that companies can utilise similar models based on their organisational structure to improve their institutions (Mohajan, 2017:43).

### **3.12 IMPORTANCE AND BENEFITS OF KNOWLEDGE MANAGEMENT**

Owing to its evident advantages, the prioritisation of KM has emerged as a paramount focus in enhancing corporate competitiveness and gaining an edge (Igbinovia & Ikenwe, 2017:28). On the relevance of knowledge management in enterprises, the authors further claim that it promotes innovation, fosters the free flow of ideas, raises revenues, lowers costs, and improves efficiency and effectiveness (Igbinovia & Ikenwe, 2017:28). Furthermore, according to Dhamdhere (2015b), “Knowledge Management may transform organisational new effectivity, performance, and span of operation by making data and information accessible to people for efficient production.” As a result, knowledge management is critical to the advancement of companies, institutions, and systems in terms of harnessing knowledge for potential rewards (Igbinovia & Ikenwe, 2017:28).

Knowledge management increases a company’s effectiveness, production, integrity, and creativity. It improves decision-making, eliminates waste, maintains high data integrity, and fosters increased cooperation. Furthermore, knowledge management improves an organisation’s worth or financial value by recognising organisational members’ knowledge as an asset akin to capital facilities. As a result, knowledge management is critical to an organisation’s long-term survival and growth (Igbinovia & Ikenwe, 2017:28). Although knowledge is recognised as a significant aspect in production or service operations, knowledge management uses knowledge to the benefit of the business. KM, on the other hand, makes use of intellectual resources to increase organisational performance (Igbinovia & Ikenwe, 2017:28). Among other things, Krstić and Petrovi (2012) examine the importance of knowledge management in fostering corporate innovation and emphasise that KM fosters and encourages a knowledge-driven environment in which optimal performance and innovation are fostered, as well as improving growth willingness, all of which have a favourable impact on an organisation’s innovative capabilities. Enterprises will be able to establish and maintain their competitive positions in the marketplace because of such innovation (Igbinovia & Ikenwe, 2017:28).

The advantages of KM are numerous, including the capacity of businesses to be more flexible and adapt more rapidly to changing market situations, as well as the potential to be more inventive, as well as the ability to make better decisions and increase productivity (Sundiman, Idrus, Troena & Rahayu, 2013:50). Measuring the predicted advantages of KM is challenging since its worth cannot be accurately judged without a thorough grasp of organisational

operations and a continuous and long-term monitoring of the changes that have happened (Sundiman *et al.*, 2013:50).

According to Marchegiani (2021) research, firms that are not just technologically capable, but also make the long-term effort to align the cultural, managerial, and organisational factors for knowledge management will reap the rewards (Sundiman *et al.*, 2013:50).

Organisations must understand the value of KM implementation and their present KM inclination to progress their use of KM for ongoing operational processes and decision-making. Whereas the existing research has addressed the possible benefits of KM, less is known about how they may be implemented (Sundiman *et al.*, 2013:50). The following are the three foremost benefits that an integrated KM system could afford an organisation: (1) aiding organisations in the acquisition, arrangement, preservation, transmission, distribution, and application of both internal and external knowledge for fundamental business execution; (2) disassembling, externalising, and amassing valuable individual knowledge into organisational knowledge; (3) empowering all personnel to partake in the dissemination of organisational knowledge throughout the business implementation process (Sundiman *et al.*, 2013:50).

Organisations assert numerous advantages resulting from the implementation of knowledge management, encompassing nearly every facet of organisational performance and fostering employee empowerment (Sundiman *et al.* 2013:50). Sundiman *et al.* (2013:50) categorises the benefits of knowledge management into the following classifications:

**Benefits of KM for the individual:**

- Helps individuals keep abreast.
- Presents difficulties and opportunities to contribute.
- Strengthens organisational relationships by creating community bonds.
- Through better decision-making and problem-solving, assists people in performing their tasks and saving time.

**Benefits of KM for the community of practice:**

- Creates a code of conduct for professionals that members can adhere to.
- Encourages more productive networking and teamwork.
- Encourages peer mentoring.
- Establishes a universal language.

- Improves professional abilities.

#### **Benefits of KM for the organisation:**

- Enhances prospects for innovation and cross-fertilisation of ideas.
- Enhances the knowledge that is included in products and services.
- Helps firms keep one step ahead of their rivals.
- Helps promote strategies.
- Helps to develop organisational memory.
- Promotes the finest practices.
- Solves issues effectively.

### **3.13 CRITICAL SUCCESS FACTORS OF KNOWLEDGE MANAGEMENT IMPLEMENTATION**

One of the biggest problems that businesses have when attempting to implement KM is how to do it. Many businesses intending to implement knowledge management are unclear of the right method to use. The research tends to agree that a combination of social and technology strategies is optimum (Valmohammadi & Ahmadi, 2015:133). Therefore, the path forward will be prepared if firms are aware of the important aspects that will ensure the success of their KM implementation. There are several aspects that might influence the effectiveness of KM implementation.

According to some studies, critical success factors (CSFs) are essential facets within the field of planning processes and operations, warranting thorough consideration for the achievement of efficacy (Valmohammadi & Ahmadi, 2015:133). The exploration of knowledge management encompasses a diverse spectrum of attributes, encompassing organisational culture and structure, managerial support and leadership, training and education, information technology, as well as rewards and incentives (Ramjeawon & Rowley, 2017:3). These critical success factors are described as follows:

#### **3.13.8 Management leadership and support**

The implementation of a knowledge management program represents a substantial organisational transformation, requiring the endorsement and active involvement of the executives within the organisation. The commitment of high-ranking executives enhances the

likelihood of augmented resource allocation and a greater investment of time in corporate activities (Valmohammadi & Ahmadi, 2015:134). Management leadership is described as upper management's support for the accomplishment of KM-related initiatives. Leadership is a critical success component in KM and is also beneficial to effective KM implementation. Since knowledge management is a complicated task, it requires managerial leadership and assistance to attain the greatest degree of organisational efficiency (Abubakar *et al.*, 2019:106). Leaders should prioritise knowledge within the organisation as a serious issue in an organisation's strategy, as well as hire and evaluate employees to assist in knowledge growth and assign rewards based on job requirements (Valmohammadi & Ahmadi, 2015:134).

### **3.13.9 Organisational culture**

Organisational cultures embody an organisation's style, directing its workers' day-to-day relationships in the workplace and instructing them on how to conduct and communicate inside the enterprise, and determining how the corporate structure is created. According to the research, organisational culture is important in creating knowledge and KM in organisations as it influences how people learn, gain, and exchange knowledge (Valmohammadi & Ahmadi, 2015:134). Organisational culture, is a system of acquired behaviours where "basic assumptions and beliefs that are shared by members of an organisation" (Rai, 2011). Mostly all KM implementations involve a cultural shift – not really a full transformation – which makes culture an important topic. Culture is probably the most important aspect in adopting or implementing KM. Collaborative culture seems to be another key concept for sharing knowledge between people and groups since knowledge transfer needs people to engage, exchange ideas, and share information with one another. (Valmohammadi & Ahmadi, 2015:134).

### **3.13.10 Organisational structure**

Organisational structure is considered a critical success factor for efficient KM implementation. According to Adhikari (2010), both informal and formal organisational structures can be essential, with features such as workspace arrangement fostering social contact and communities of practice (Ramjeawon & Rowley, 2017:5).

Organisational structure may impede efficient knowledge management within a company. Organisational structure comprises three dimensions, namely formalisation, centralisation/decentralisation, and specialisation. Formalisation was characterised by

Dekoulou and Trivellas (2017) as “the degree to which decisions, work relationships and operational routines are governed by specific standard rules, regulations, policies and procedures.” Centralisation refers to the organisational level of power in decision-making inside of an organisation, and it is the extent to which a person in power makes sound judgements and analyse organisational actions (Abubakar, Elrehail, Alatailat & Elçi, 2019:106). This evaluates the structure and central authority, strategy, and resource distribution. Furthermore, specialisation evaluates how employees or teams do a range of jobs, as well as how responsibilities are dispersed within the business (Abubakar *et al.*, 2019:106).

### **3.13.11 Training and education**

Workshops focusing on knowledge management and awareness play a crucial role. Organisations must also engage in training sessions that highlight the significance of both knowledge and knowledge management for organisational growth. Given that KM involves the utilisation of specific technologies for gathering essential data, it is imperative to provide training that emphasises the proper utilisation of storage mechanisms. Personnel must be skilled in drafting, editing, and formatting skills to enter items into a knowledge database, as material must be produced in a uniform manner (Valmohammadi & Ahmadi, 2015:135). Several methods are included in training and education. Setting up structured training sessions on collaboration and inclusion methods, learning by peers, teamwork skill development, innovative thinking, solving problems, record-keeping, convincing experienced workers to convey their knowledge to newer members, and training outside of the organisation are some of them. Training and education are factors that relate to the human component of KM, and therefore they may play an essential part in KM implementation (Valmohammadi & Ahmadi, 2015:135).

### **3.13.12 Information technology**

Knowledge management and information technology (IT) are integrally connected since one appears to inspire the development of the other. Databases, intranets, knowledge portals, and networks are commonly acknowledged to be the core supporting blocks of KM deployment. They make it considerably easier to find and utilise knowledge that has been recorded. Information technology plays a role in document storage and access (Valmohammadi & Ahmadi, 2015:135). Information technology typically manages databases, hardware and software gateways, and information survival. Nonetheless, any KM effort might fail if IT professionals just look at the technical aspect. To obtain a better understanding of KM

processes, IT personnel must be aware of and educated in KM processes. When this is completed, IT will play an important role in the firms' ongoing KM implementation initiatives (Valmohammadi & Ahmadi, 2015:135).

Technology, namely information technology that supports and/or allows knowledge management (Stankosky, 2005), has been identified as a major success element for KM implementation within skill development providers. Moreover, there is agreement that, while suitable information communication technologies could enable skill development providers in shifting to a knowledge-based learning organisation, a *perfect match* between information technology, socio-organisational variables, and a sustainable organisational culture is established (Ramjeawon & Rowley, 2017:4).

### **3.13.13 Rewards and motivation**

Many knowledge management initiatives necessitate a transformative process. Beyond merely effecting change, employees must possess the fortitude to withstand the pressures inherent in the transition phase to fully realise the benefits and engender future commitment (Valmohammadi & Ahmadi, 2015:136). These components are categorised into four distinct groups: social incentives, financial returns, additional security, and enhanced opportunities/risks, all serving as motivational factors. In a more expansive context, aside from motivating individuals, innovative strategies, such as enhancing the quality of work life, can be employed to positively influence the organisational behaviour of individuals (Valmohammadi & Ahmadi, 2015:136). From an alternative perspective, the reward and incentive system in knowledge management should encompass both push and pull mechanisms. Push rewards involve recognising individuals through performance appraisals based on program participation, while pull incentives involve encouraging people to utilise the knowledge base to channel their innovative ideas. Essentially, this entails providing recognition to individuals and their concepts within the organisational framework (Valmohammadi & Ahmadi, 2015:136).

## **3.14 KNOWLEDGE MANAGEMENT IMPLEMENTATION STEPS**

According to Namondwe (2011:44), the knowledge management implementation process entails the following main phases:

- Getting management support: This entails convincing executives to support the programme of knowledge management.

- Conducting a knowledge assessment: A review will help in assessing the organisation's knowledge quality and designing a suitable strategy.
- Formulating the KM strategy: In order to do this, KM tasks must be identified, given a priority, and then coordinated with organisational objectives.
- Executing the KM strategy: In this step, the knowledge audit strategy will be used, and KM activities will be integrated with organisational activities.
- Evaluation of the KM programme: After a specified period, i.e. a year, the KM programme can be assessed using suitable metrics that concentrate on specific KM tasks.

When implementing knowledge management, programme leadership, organisational leadership, programme infrastructure, and programme sustainability should all be considered. Getting management support increases the likelihood that the programme will be maintained and incorporated into the organisation's processes. Additionally, carrying out a knowledge audit aids in the creation of a suitable strategy, ensuring that KM goals support organisational goals (Namondwe, 2011:45). Integrating KM activities with ongoing work will be made easier by matching KM objectives with organisational goals. Therefore, creating a solid plan is a crucial first step in successfully implementing knowledge management. Additionally, a review of the KM programme is essential for KM processes to continuously develop, which, in turn, improves performance on a personal and organisational level (Namondwe, 2011:45).

The change that KM delivers to an organisation and the influence that such change has on the organisation are significant aspects of KM implementation that have not before been highlighted. This cannot be disregarded because the success of KM implementation depends greatly on how such change is managed (Namondwe, 2011:45).

### **3.15 CHALLENGES OF KNOWLEDGE MANAGEMENT IMPLEMENTATION**

Knowledge management is a challenging process to implement because of the variety of difficulties it faces. The majority of the obstacles are categorised as human-centred (Guribie & Tengan, 2019:3). According to Noprisson (2019:274), in support of the above, although implementing knowledge management has many benefits for an organisation, there are still many obstacles and difficulties to overcome.

The main KM concerns and difficulties that have been explored by numerous academics are directly tied to KM enablers. The KM literature contains extensive documentation of the KM problems. As per Nor, Khairi, Rosnan, Maskun, and Johar (2020:238), executives express

significant apprehension regarding managerial considerations, organisational culture, and informational challenges during the implementation of KM. The repercussions of change management, challenges associated with knowledge sharing, and the ability to influence stakeholders within the organisation are all intricately linked to cultural considerations. Furthermore, managerial concerns are intertwined with the significance of KM within an organisation and the imperative for swift and demonstrable metrics that highlight this significance. Additionally, the worry about informational concerns is linked to the difficulties in setting up an efficient technological and technical infrastructure, together with appropriate methods of managing new knowledge to minimise information overload or inaccuracy (Nor *et al.*, 2020:238).

Organisations understand that technology, alongside technological infrastructure, is crucial for the success of KM initiatives, yet new technologies like email, web portals, and others continue to be some of the factors contributing to some organisations' poor KM performance (Nonaka & Takeuchi, 1995). The convergence of a person and knowledge management using developing technologies was discussed by Davenport and Prusak in 1998. It comes to the conclusion that what makes the KM process tough is not the usage of particular technologies so much as it is how individuals, and their teams, are changing in terms of their behaviour. Generating shared knowledge, empowering communities, and reducing overload of information are other KM difficulties that must be overcome (Fischer & Ostwald, 2001). In addition, managing tacit knowledge, utilising IT, dealing with cultural diversity, paying attention to organisational structures, human resources, and rising commercial rivalry are all recognised as current KM difficulties for international company (Nor *et al.*, 2020:239).

Heisig's (2009) analysis on the success of knowledge management provides valuable insights into the barriers and challenges faced during the implementation of knowledge management on a global scale. The following factors have been identified based on Heisig's work:

- Human-oriented variables (culture, people, and leadership): Culture, both organisational and ethnic, such as regional or national culture, affects how people work, collaborate, and communicate. As a result, common KM activities like information exchange are significantly affected.
- Organisation (processes and structures): Organisational processes vary based on geographic location and organisational culture. It goes without saying that KM

procedures in scattered organisations and among organisations with various organisational and ethnic cultures must be coordinated.

- Technology (infrastructure and applications): Diverse nations have different technology infrastructures. Applications are also accepted based on preferences (e.g. how technologies are accepted, which social networks are preferred in a country).
- Management (strategy, goals, and measurement): Organisational and racial cultures have an impact on management methods. As a result, it is crucial to match up KM initiatives with the appropriate management principles.

### **3.16 KNOWLEDGE MANAGEMENT IMPLEMENTATION FRAMEWORK**

Many academics and researchers working in the field of knowledge management have haphazardly and provisionally utilised the word *framework* without defining it (Tan, Teo, Tan & Wei, 1998; Hahn & Subramani, 2000; Rubenstein-Montano, Liebowitz, Buchwalter, McCaw, Newman, Rebeck & Team, 2001; Sunassee & Sewry, 2002; Abdullah, Selamat, Sahibudin & Alias, 2005; Pawlowski & Bick, 2012; An, Bai, Deng, Sun, Zhong & Dong, 2017; Farooq, 2018; Harb & Abu-Shanab, 2020). They have created KM frameworks, but their meaning has not been mentioned. A precise definition is required to understand what a framework means in its whole and to prevent misunderstanding (Wong & Aspinwall, 2004:94).

According to the Oxford English Dictionary (2023), a framework is defined as “a structure composed of parts framed together, (English for specific/special purposes) esp. one designed for enclosing or supporting anything; a frame or skeleton.” A framework, in the words of Popper (1994) described a framework as a compilation outlining fundamental assumptions or concepts with a logical background, constituting the foundations for purposive conduct. Thus, according to Dale (1999), a framework is a method for creating and presenting plans. It serves as a manual that enables firms to carry out the right course of action at a pace that is appropriate for their company circumstances. As a result, it can be understood as a structure made up of appropriate units or as a collection of guiding principles and concepts that underpin a discipline. In order to carry out the necessary actions and activities for KM, a framework as a set of guiding principles or structure must serve as the theoretical foundation (Wong & Aspinwall, 2004:95).

Over the course of time, both individuals and organisations have formulated various KM frameworks (De Borba & Chaves, 2021:263). These frameworks can be categorised into three types: prescriptive, descriptive, and hybrid. Prescriptive frameworks offer an understanding of

the different kinds of KM processes without becoming immersed in the specifics of the practices to be used. In comparison, descriptive structures highlight pertinent KM features in terms of how they affect the effectiveness or failure of KM efforts. Prescriptive structures are the foundation of several studies found in literature (Rubenstein-Montano *et al.*, 2001). The implementation of knowledge management involves tasks or activities that involve manipulating knowledge, and therefore, because the structures are task-oriented, the early KM initiatives advance naturally (De borba & Chaves, 2021:263).

In accordance with Rubenstein-Montano *et al.* (2001), KM frameworks distinguish themselves through their role as overseers or guides within the discipline. This denotes their capacity to supervise discipline-specific activities and provide guidance on the proper implementation of knowledge management. Notably, these frameworks forge connections between theory and practice, thereby facilitating the practical application of knowledge management. An influential factor contributing to the ongoing challenges faced by numerous organisations in effectively managing knowledge and realising its full potential is the lack of a robust theoretical foundation to support the implementation (Wong & Aspinwall, 2004:93). A strong framework for the implementation of KM aids in meeting the demand by offering crucial guiding principles and directives. However, managers and practitioners may find it difficult to create such a framework because they may not be aware of the qualities, components, and concepts that should be contained within. Implementation frameworks that lack the requisite components may present an incomplete view of KM and its implementation process, offering less-than-ideal direction for carrying out KM (Wong & Aspinwall, 2004:93). Further justifications for the significance of a KM implementation framework, according to Holsapple and Joshi's (2002) perspective and some of the issues identified, include the following:

- To increase knowledge and comprehension of the KM domain. It offers a conceptual explanation of knowledge management and helps individuals to comprehend what KM is as well as the many knowledge components and procedures involved. As a result, it clarifies the KM phenomenon and lessens the misunderstanding that surrounds this subject.
- To present KM in a more comprehensive view. It allows individuals to see it from a wider angle and consider all of its aspects. Additionally, it helps in integrative reflection and conceptualisation of KM.

- It makes it easier for KM to be communicated throughout an organisation. A framework gives people a shared terminology and language. It assists in the discussion of KM implementation difficulties within the organisation and helps managers convey their KM vision to their staff.
- It assists in establishing the extent of KM efforts and projects. This is due to a framework, which describes the phases and activities to be handled as well as the factors and effects to be considered, which sets the virtual border of KM for enterprises to apply.
- As a tool for evaluation, it enables managers and practitioners to determine whether they have taken into account all pertinent KM implementation-related concerns. It helps managers in addressing crucial KM issues that could otherwise go unnoticed.
- Lastly, an implementation framework makes it easier to oversee the process of implementation and supports methodical, controlled coordination of organisational actions.

As the founder of modern management theory, Drucker (1993) said that one of the most significant issues facing businesses in a contemporary society is to develop systematic processes to manage knowledge. Implementing KM continues to be a difficult undertaking for enterprises. To assure the success of their KM initiatives, it is appropriate to build a solid implementation framework to serve as a roadmap for businesses before the actual implementation takes place. The objective is to outline how to build a framework for the implementation of KM and to identify the essential components that ought to be present in it (Wong & Aspinwall, 2004:94).

### **3.17 CRITICAL LITERATURE ANALYSIS**

The current literature review on knowledge management presents a comprehensive understanding of the field, encapsulating various aspects. In terms of knowledge, the existing body of work emphasises the significance of explicit and tacit knowledge, recognising the particular nature of information within organisations. However, there is a notable gap in the in-depth exploration of dynamic and contextual aspects of knowledge creation and dissemination within the skills development providers. The literature review adequately covers knowledge management, elucidating its relevance in developing a framework for the implementation of knowledge management. It highlights the crucial role played by people, processes, and technology as components of knowledge management, yet there is room for more empirical studies assessing the interplay among these elements. The literature effectively outlines the resource-based view, showcasing how organisational resources contribute to sustained competitive advantage through the lens of knowledge.

However, a more refined examination of the resource-based view in the context of evolving technologies and global dynamics would be beneficial. Furthermore, the exploration of knowledge-based views is robust, showcasing how firms leverage knowledge assets for strategic advantage. Despite this, a deeper analysis of the role of culture and leadership in fostering a knowledge-based perspective is warranted. The review appropriately covers knowledge management processes, systems, and models, highlighting their significance in organisational settings. Nonetheless, there is an opportunity for more empirical studies assessing the real-world effectiveness and challenges of various implementation approaches. In summary, the existing literature provides a strong foundation, but a context-specific exploration of these facets could enhance our understanding of knowledge management in contemporary organisational contexts.

### **3.18 CHAPTER SUMMARY**

In this chapter, an extensive examination of the literature pertaining to knowledge management was conducted, explaining the distinctions among data, information, and knowledge. Secondly, the concept knowledge was defined and classified, followed by the knowledge-based view and resource-based views, which were discussed as this study is grounded in both theories. Thirdly, knowledge management and its components were described, followed by the KM processes, systems, and models. Additionally, the importance or benefits of KM were described. The critical success factors and the steps of KM implementation were described. Lastly, the challenges, KM implementation framework and the critical literature analysis were explained.

## CHAPTER 4

### RESEARCH METHODOLOGY

#### 4.1. CHAPTER OVERVIEW

The previous chapter reviewed literature on knowledge management. In this chapter, the focus is on the research paradigm, research method and design followed in this study. In the second part of the chapter, the research process entails the population of the study and the sample method. Thirdly, the data collection and analysis processes employed in this study are presented, followed by the reliability and validity of the data collection and gathering instruments. Lastly, the trustworthiness and the ethical considerations are described.

#### 4.2. RESEARCH PARADIGM

The word *paradigm* is used to describe the philosophical presumptions or fundamental set of beliefs that serve as the researcher's guide and shape their worldview in social science (Lincoln, Lynham & Guba. 2011). The term *paradigm* was first used by Thomas Kuhn in 1970 to refer to the beliefs, views, and ideals held by a group of experts concerning the nature of knowledge and reality. According to Creswell and Clark (2011), *worldview* is another word for paradigm and is defined as "a way of thinking about and making sense of the intricacies of the real world" (Khatri, 2020). Modern social science research is structured and organised according to several paradigms or worldviews.

The literature illustrates ongoing discussions on how these many paradigms should be understood while acknowledging the trajectory of paradigm development (Rolfe, 2006; Parahoo, 2014). The authors further state that this trajectory shows a progression from positivism/post-positivism, which focuses primarily on objectivist research and emphasises a domination of quantitative approaches to constructionist/interpretive research, which emphasises most of the qualitative research (Rolfe, 2006; Parahoo, 2014). The underlying qualitative-quantitative disagreement is sparked by the literature's prominence of certain research paradigms and methodologies (Mertens, 2015). However, Guba (1990) acknowledges a variety of paradigmatic views that direct our daily activities while also emphasising the importance of the paradigms "that guide disciplined inquiry" in research. The following presents a summary of the major paradigms of inquiry, including positivism, post-positivism, constructivism, interpretivism, and pragmatism, along with descriptions of their ontological, epistemological, and methodological stances (Kelly, Dowling & Millar, 2018:13).

#### **4.2.1. Positivism**

A branch of philosophy, known as positivism, gained popularity in the early nineteenth century because of the writings of French philosopher Auguste Comte (Richards, 2003:37). Positivism holds that reality exists apart from people. It is experiential by our senses and subject to unchangeable laws. Positive thinkers hold a realistic ontological position. Positivists want to comprehend society in a similar way to how they comprehend the natural world (Rehman & Alharthi, 2016:53). In nature, phenomena have a cause-and-effect relationship that, once established, enables future predictions to be made with certainty. For positivists, the same applies to the social world. Since reality is context-free, researchers from many eras and locations will come to the same conclusions regarding a certain phenomenon (Rehman & Alharthi, 2016:53).

Experimentation is a key component of positivist methodology. Propositional or question-based hypotheses are made regarding the relationship between various events and their causes (Cohen, Manion & Morrison, 2007). The quantity of empirical evidence is obtained, examined, and then put into the shape of a theory that describes how the independent variable affects the dependent variable. Deductive methods are used to analyse data; firstly, a hypothesis is put forward, and then, depending on the findings of statistical analysis, it is either confirmed or rejected (Cohen *et al.*, 2007).

Positivists hold an objectivist view of epistemology. Researchers examine events that exist independently of them in an objective manner; they do not interfere with or alter the phenomena that are being observed. They will explain things using words and symbols to capture them exactly as they are, without any kind of manipulation (Gall, Gall & Borg, 2003:14). Positive thinkers believe that the world is *out there* and that it can be studied in a more or less static form, according to Gall *et al.* (2003:14). Positivists assert that by using scientific methods, it is feasible to construct the rules regulating social phenomena and portray them as true assertions (Rehman & Alharthi, 2016:53).

#### **4.2.2. Post-positivism**

Although positivism and post-positivism are commonly combined into a single paradigm, their ontological and epistemological stances diverge in a variety of aspects (Kelly *et al.*, 2018:14). As a paradigm, post-positivism highlights the epistemological attitude that research outputs encompass an estimation of truth rather than absolute truth, as is expressed in the positivist

stance, and it also shows an ontological evolutionary process in comprehending the world (Creswell, 2014; Denzin & Lincoln, 2011). The essential tenets of this paradigm are highlighted by Philip and Burbules (2000), who argue that they reflect an *epistemological scepticism* that views knowledge as conjectural rather than absolute. As a result, the goal of research is to formulate claims, then modify, eliminate, or improve them in favour of others that are better supported. From an ontological standpoint, the perspective is one that presupposes that knowledge of reality is knowledge that may not be flawless (Welford, Murphy & Casey, 2011).

Moreover, post-positivism differs from the positivist paradigm in that it recognises the presence of observable phenomena as well as the potential to explain them (Creswell 2014). To this purpose, the post-positivist paradigm's methodological focus emphasises the utilisation of 'many techniques' from both quantitative and qualitative data sources in the quest for truths that can be offered by what were once thought of as opposing perspectives (Rolfe, 2006). Yet, it is important to note that post-positivism is not a rejection of the positivist viewpoint, but rather a desire to arrive at an estimation of the truth that emphasises the use of controlled research procedures and empirical testing to attain this goal (Lincoln, Lynham & Guba, 2011, Creswell, 2014).

#### **4.2.3. Constructivism**

Constructivism and constructionism should be distinguished from one another because they are frequently used interchangeably in literature (Crotty, 1998; Young & Collin, 2004). The differences between these two ideas are highlighted by Crotty (1998:58), who notes that constructivism focuses on the "unique experience of each of us", whereas constructionism "emphasises the hold our culture has on us: It influences how we perceive things and gives us a quite different view of the world". In terms of epistemology, constructivism focuses on *how we know* and, in essence, "what meaning we place on this knowledge" (Kelly *et al.*, 2018:18).

Constructivism is frequently linked to literary and informal rhetoric, qualitative research methods, and approaches in which the researcher makes extensive use of participant perspectives and creates subjective interpretations of the occurrences (Kaushik & Walsh, 2019:255). As a result, constructivist research takes a bottom-up approach, starting with individual views before moving on to broad patterns and finally broad understandings (Creswell & Clark, 2011). Constructivism, which is sometimes associated with interpretivism, essentially challenges both the positivist and post-positivist perspectives (Creswell, 2014;

Crotty, 1998). The authors further state that the constructionist and interpretivist paradigms are similar to one another (Creswell, 2014; Crotty, 1998). For instance, constructivism has had a significant influence on the modern phenomenological methodology used by the Vancouver School of conducting phenomenology (Halldorsdottir, 2000).

Contrary to popular belief, there is little agreement on what distinguishes *constructivism* and *constructionism*, aside from their emphasis on individual cognition as opposed to social interaction or processes (Kelly *et al.*, 2018:18). Constructivism, according to Crotty (1998:58), emphasises the mind and the creation of meaning, as opposed to constructionism, which emphasises “the collective generation of meaning.”

#### **4.2.4. Interpretivism**

Interpretivism is a “response to the over-dominance of positivism” (Grix, 2004:82). The idea that there is a single, verifiable reality that is separate from our senses is rejected by interpretivism. It opposes foundationalism to use interpretive ontology. It rejects “to adopt any permanent, unvarying (or foundational) standards by which truth can be universally known” (Guba & Lincoln, 2005:204). Interpretivists, on the other hand, think that various realities are socially produced. Reality and truth are made, not found. Real life is always mediated by our senses, making it impossible to know reality as it is. It is inappropriate to use interpretive epistemology. No observer can reach the outside world directly without bringing their worldviews, concepts, backgrounds, etc. into the equation. Flick (2004:89) mentions, “Perception is seen not as a passive-receptive process of representation but as an active constructive process of production”. People engage in social interactions with one another and with society at large, giving many social phenomena names and meanings (Rehman & Alharthi, 2016:55).

As per Cohen *et al.* (2007:21), interpretive methodology necessitates that social phenomena should be assumed “through the eyes of the participants rather than the researcher.” Understanding social phenomena within their context is the aim of interpretative methodology. In long-term research projects, such as ethnography and case studies, interpretivists primarily gather qualitative data from participants (Tracy, 2019). The method of data analysis that results from this process is inductive, meaning that the researcher looks for patterns in the data that can be grouped into broad themes in order to comprehend a phenomenon and develop theory (Yilmaz, 2013). This is completely at odds with the deductive approach, in which researchers first identify themes and patterns before beginning the process of collecting data (Saunders,

Sim, Kingstone, Baker, Waterfield, Bartlam, Burroughs & Jinks, 2018; Cho & Lee, 2014). Therefore, once the data is gathered, researchers would search through the data for words, statements, and events that are instances of the pre-identified patterns and themes. Inductive reasoning is employed by interpretivists as opposed to deductive reasoning because “they tend to see theory as deriving from data collection and not as the driving force of research” (Grix, 2004:108).

#### **4.2.5. Pragmatism**

The root of the word *pragmatism* is the Greek word *pragma*, which means *action*, and which serves as the foundation for pragmatism (Pansiri, 2005). According to pragmatism, human behaviour is intimately connected to one’s past experiences and the beliefs that resulted from those experiences (Kaushik & Walsh, 2019:255). As a research paradigm, pragmatism embraces a variety of methodologies and has its philosophical roots in the historical contributions of the pragmatic school of thought (Maxcy, 2003).

This paradigm was developed by philosophers who believed that neither the positivist paradigm, which advocates using a single scientific method to determine reality, nor the interpretivist paradigm, which constructs reality according to social constructs, could be used to determine the ‘truth’ about the real world. Instead, it was suggested by the researchers that what was essential was a worldview that will offer research methodologies that are considered as the most suitable for examining the issue in question (Alise & Teddlie, 2010; Biesta, 2010; Tashakkori & Teddlie, 2003; Patton, 1990). In order to provide insight into participants’ actual behaviour, the beliefs that underlie those behaviours, and the outcomes that are likely to result from various behaviours, these theorists searched for research approaches that might offer more pragmatic and pluralistic approaches that can allow a method combination to be used (Kivunja & Kuyini, 2017:35). This led to the development of the pragmatic paradigm, which promotes the use of mixed methodologies as a pragmatic approach to understanding human behaviour. Therefore, as briefly described in the brackets, this paradigm promotes a relational epistemology (i.e. relationships in research are best determined by what the researcher deems appropriate to that particular study), a non-singular reality ontology (that there is no single reality and that each person has their own, distinct perception of the world), a mixed-methods methodology (a combination of quantitative and qualitative research methods), and a value-laden axiology (conducting research that benefits people) (Kivunja & Kuyini, 2017:35).

This paradigm's objective is to identify the study's shortcomings and, by employing a mixed-method approach, to strengthen it (Johnson & Onwuegbuzie, 2004). Supporters of this paradigm believe that a mixed-method approach can yield actual knowledge. Researchers should employ all methods to comprehend the problem statement because the problem is more significant than the strategy (Tashakkori & Teddlie, 1998). Pragmatism is independent of any philosophy or ideology. The key is to find the ideal research methodologies and procedures that address the problem statement. Researchers are free to utilise both quantitative and qualitative approaches (Rahi, 2017:1).

This study was grounded in both the pragmatism and interpretivism paradigms, in the sense that the pragmatism paradigm concentrates on the *what* and *how* of the research problem (Creswell, 2003:11). It is comprehended as the paradigm that offers the fundamental philosophical structure for mixed-methods research (Shan, 2022:2). Interpretivists lead research by observing reality in real life or as it occurs, with analysts interpreting *what is happening* in various ways (Bisschoff & Govender, 2004:71). The interpretivism study depended on qualitative data collection methods and an analysis or a mixture of both qualitative and quantitative methods (mixed methods) (Mackenzie & Knipe, 2006:195).

### **4.3. CHARACTERISTICS OF RESEARCH PARADIGMS**

A paradigm, as per Lincoln and Guba (1985), consists of four components: epistemology, ontology, methodology, and axiology. These components make up the fundamental assumptions, beliefs, norms, and values that each paradigm embraces, and therefore it is crucial to have a thorough understanding of them (Kivunja & Kuyini, 2017:26). As a result, by setting your research study within a certain research paradigm, you are acknowledging that your research will sustain and be directed by the assumptions, beliefs, norms, and values of the identified paradigm (Kivunja & Kuyini, 2017:26). The research paradigms are all fundamentally philosophical in nature and have the following characteristics (Kaushik & Walsh, 2019:1).

#### **4.3.1. Epistemology**

Epistemology refers to “the branch of philosophy that studies the nature of knowledge and the process by which knowledge is acquired and validated” (Gall *et al.*, 2003:13). It is concerned with “the nature and forms of knowledge how it can be obtained and shared to other people” (Cohen *et al.*, Morrison, 2007:7). The epistemological question is what prompts a researcher

to engage in discussing “the possibility and desirability of objectivity, subjectivity, causality, validity, generalisability” (Patton, 2002:134). Therefore, adherence to an ontological belief system influences one’s epistemological presumptions, either directly or indirectly (Rehman & Alharthi, 2016:52).

#### **4.3.2. Ontology:**

Ontology refers to “the nature of our beliefs about reality” (Richards, 2003:33). Researchers draw conclusions about reality, how it works, and what can be learned from it. The ontological question is what prompts a researcher to consider the nature of reality (Rehman & Alharthi, 2016:51).

#### **4.3.3. Methodology:**

According to Ellen (1984:9), methodology is “an articulated, theoretically informed approach to the production of data”. It alludes to the research and assessment of data generation methods (Rehman & Alharthi, 2016:52). It is the “strategy, plan of action, process or design” that guides the selection of research techniques (Crotty, 1998: 3). It is involved with the discussion of how a specific research project should be carried out (Grix, 2004: 32). It assists the researcher in determining the kind of data needed for a study and the most suitable data gathering methods for that study’s objectives. The methodological question is what prompts the researcher to consider the best way to study the world (Rehman & Alharthi, 2016:52).

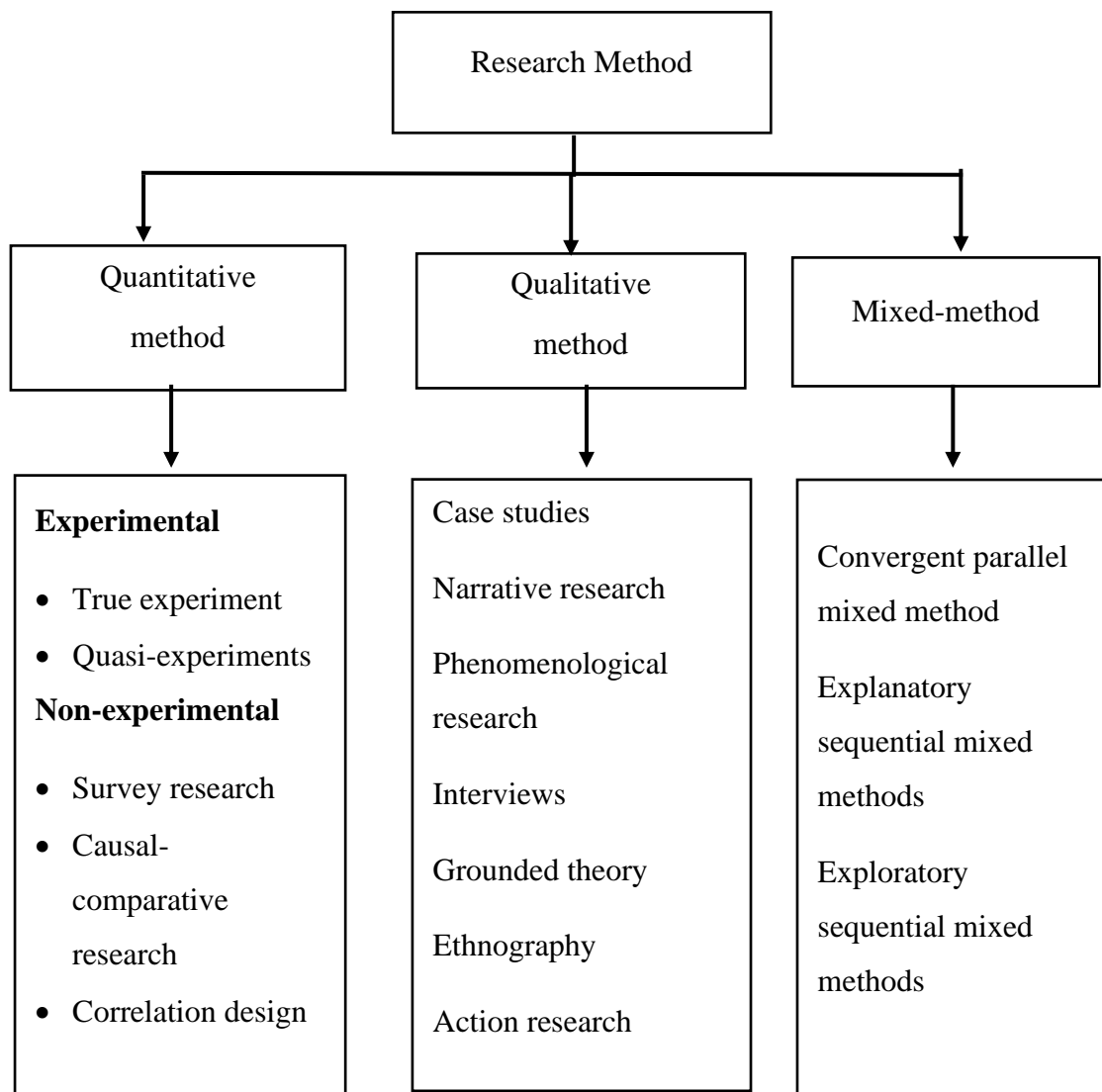
#### **4.3.4. Axiology:**

Axiology refers to “the ethical issues that need to be considered when planning a research proposal.” It takes into account the philosophical framework for arriving at meaningful or moral conclusions (Finnis, 1980). It entails describing, assessing, and comprehending ideas of acceptable and inappropriate behaviour in relation to the research. It involves considering the value assigned to the various components of research, the subjects, the data and the audience to which we will present the research’s findings (Kivunja & Kuyini, 2017:26). Regarding the human values of everyone who will be participating in a study project, it is crucial to take this subject into consideration.

#### 4.4. RESEARCH METHOD

The type of research determines the research method to be utilised. Despite the fact that there are numerous categories for research methodologies, quantitative, qualitative and mixed research methods predominate (Rahi, 2017:1162). Figure 4.1 presents the summary of research methods.

**Figure 4.1: Summarised form of research methods.**



Source: Asenahabi (2019:84)

#### **4.4.1. Quantitative**

According to De Villiers, Dumay and Maroun (2019), quantitative research focuses on correlations and causes, relies on objective measurements and observation, tackles problems through measurement and description, and strives to demonstrate statistically significant links. Quantitative research, as described by Mohajan, (2020), is a method of analysing data that takes the shape of numbers and the testing of hypotheses that a researcher is intended to study. Kent (2020) also notes that this method is focused on numbers and employs surveys and other numerical data to evaluate ideas that are objective by looking at the relationships between variables. Moreover, quantitative research uses statistical approaches to analyse data and interpret data from a positivist research perspective, as noted by De Villiers *et al.* (2019). Quantitative research uses deductive data analysis, which involves testing hypotheses with numerical data and statistical tests (Chigbu, 2019). Furthermore, the main benefit of quantitative approaches comes from the objectivity of study results and the capacity to generalise findings to the wider population (Nardi, 2018).

#### **4.4.2. Qualitative**

Qualitative research's focus is on examining and comprehending the meaning that an individual or group of individuals assigns to a social or human situation (Creswell, 2014). A qualitative study is any study that yields conclusions that were not reached through the use of statistical techniques or other quantification methods (Roberts, 2020a). Aspers and Corte (2019) add that qualitative methods are frequently used to develop theory and understanding using a variety of non-statistical techniques.

Similar to this, Merriam and Grenier (2019) claim that qualitative research employs an inductive methodology and has a fundamentally distinct role for the researcher and method of interpretation. The foundation of qualitative research is inductive reasoning, which involves moving from particular to broad to arrive at general findings or hypotheses (Burns & Grove, 2009; Jirojwong, Johnson & Welch, 2011). Hoffman and Bennett (2013) add that it is based on actual people's experiences and is not reduced to a single number or statistic. Furthermore, qualitative research offers a 'deep' view of the phenomenon being studied (Borrego, Douglas & Amelink, 2009) by illuminating the connections between the research objects and their natural environments (Mello & Flint, 2009). The differences between quantitative and qualitative research methods are presented in Table 4.1.

**Table 4.1: Differences between quantitative and qualitative research methods**

QUANTITATIVE	QUALITATIVE
Focuses on statistics and figures	Focuses on words and their meanings
The main emphasis is on testing hypotheses and theories	The emphasis is on developing hypotheses and researching concepts
Calls for numerous respondents	Few participants are needed
Close-ended multiple-choice questions	Open-ended questions
There are many ways to collect data, including surveys, experiments and observations	Among the techniques used to gather data are focus groups, case studies, interviews, and literature reviews
Data analysis methods include finding common patterns in the data using tools such as SPSS, Excel, R, etc.	Data analysis methods include thematic analysis, discourse analysis and content analysis

Source: Quora (2023)

#### **4.4.3. Mixed-method research**

The phrase *mixed methods* describes research that combines quantitative and qualitative data collection and analysis techniques into a single project (Guetterman & Fetters, 2018). The pragmatic research philosophy, which permits the use of both quantitative and qualitative research methodologies, serves as the foundation for mixed-methods research (Creswell & Clark, 2011). Johnson, Onwuegbuzie and Turner (2007) describe this empirical study as combining components of qualitative and quantitative research methodologies for the general aims of breadth, depth and corroboration. According to a mixed-methods study strategy, quantitative research uses closed-ended questions with predefined answers, whereas qualitative research uses open-ended questions with no predetermined answers (Creswell, 2014).

An integrated methodology mixed method that combines both quantitative and qualitative techniques was used in this study. The adoption of this integration is intended to address the shortcomings of one method relative to another (Dewah, 2012). Johnson and Onwuegbuzie (2004) elaborated on the case for mixed methods by arguing that it facilitates methodological

triangulation, allowing findings from several methods of the same phenomenon to converge. Moreover, mixed methods assist in gathering various viewpoints and eventual inferences (Cameron, Dwyer, Richardson, Ahmed & Sukumaran, 2013).

For this study, a concurrent mixed method was followed, which is a combined research method that comprises components of both quantitative and qualitative research strategies. The use of concurrent mixed methods in this study is advantageous due to the researcher's adoption of a singular phase for the simultaneous gathering of quantitative and qualitative data (Stinder, Schelte & Severengiz, 2022). Researchers can answer research questions with sufficient depth and breadth by using concurrent mixed methods and contribute to the generalisation of research findings and implications to the entire population under study (Dawadi, Shrestha & Giri, 2021:27). Therefore, the research method selected for this study considered the use of both the quantitative and qualitative research methods.

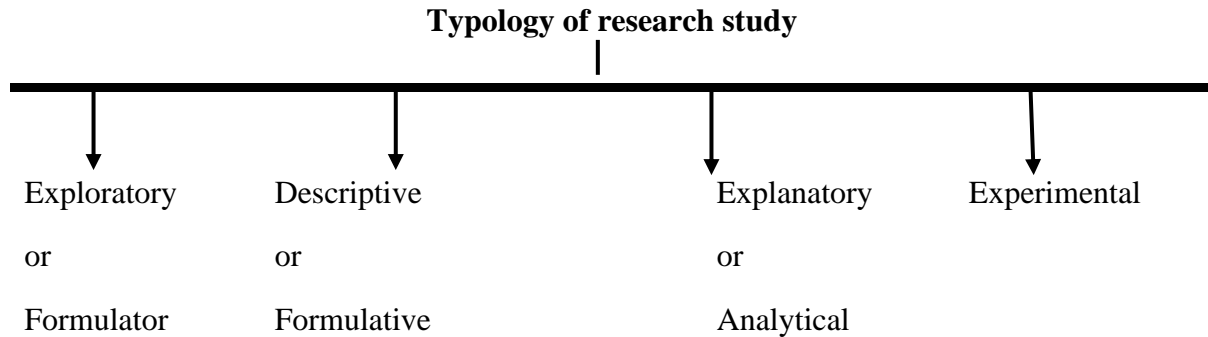
#### **4.5. RESEARCH DESIGN**

Research design is a blueprint for the proposed study work and may be thought of as the framework for research. It is the *binding force* that connects all the components of a research project together. Different social scientists use different words to define research design (Inaam, 2016:68). Research design is the plan the researcher chooses to combine the various elements of a study in a consistent and logical way, such as guaranteeing that the research problem is adequately addressed (William, 2006:12). The general strategy for linking conceptual research issues to relevant and practicable empirical research is known as the research design. It is an inquiry that offers detailed guidance for the research process (Creswell, 2014). This is a step-by-step technique that a researcher uses before the data gathering and analysis process begins in order to successfully accomplish the study's objective (Asenahabi, 2019:77). The goal of a research design is to transform a problem into data that can be used to analyse and produce accurate answers to research questions for the lowest possible cost (Asenahabi, 2019:78).

In social science research, gathering information pertinent to the research problem typically requires defining the kind of evidence required to test a theory, to assess a programme, or to precisely characterise and evaluate the significance of an observed phenomenon (Mamaile, 2018:139). It entails the organised management of data gathering. The research design serves as both a framework for the study and a visual representation of how sampling, data gathering, and analysis will attempt to address the research questions (Bentz, 2015:21). There are four

types of research designs, i.e. *exploratory*, *descriptive*, *explanatory* and *experimental*, as depicted in Figure 4.2 (Inaam, 2016:73).

**Figure 4.2: Four types of research design**



Source: Inaam (2016:73)

#### **4.5.1. Exploratory research**

This kind of research focuses on finding out what is happening, posing questions, looking for fresh perspectives, evaluating phenomena in a new way, as well as developing theories and ideas for further study (Al-Ababneh, 2020:84). Flexible design attributes define an exploratory investigation (Robson, 2002). When there is little or no knowledge regarding how previous studies of this kind have been carried out, an exploratory study is carried out (Al-Ababneh, 2020:84). Due to the relatively few studies in this field, exploratory research helps researchers better comprehend the nature of the topic they are studying (Sekaran, 2003). This research may be carried out using three major methods: a literature search, expert interviews, and focus group interviews. It is helpful for clarifying and understanding a complicated problem (Saunders, Lewis & Thornhill, 2009).

#### **4.5.2. Descriptive research**

This research describes a precise representation of people, circumstances, or events. This type necessitates gathering a great deal of data regarding the situation being studied (Yilmaz, 2013). The descriptive study's design may be flexible or fixed (Robson, 2002). A descriptive study is undertaken in order to establish and explain the features that define the variables in the scenario (Al-Ababneh, 2020:85). As a result, the descriptive study's objective is to give the researcher a profile of or a description of different facets of the phenomenon under study, such as from an individual, organisational, industry-focused, or other perspectives (Sileyew, 2019). Since this

study is a precursor to exploratory research, it is essential to have a firm understanding of the phenomenon before doing exploratory research (Lobontiu & Lobontiu, 2007).

### **4.5.3 Explanatory research**

Explanatory research looks for patterns that relate to the phenomenon being examined as well as an explanation of the situation or issue that is being studied (Al-Ababneh, 2020:85). This study might have a flexible or fixed design (Robson, 2002). Explanatory research looks into the relationship between variables in order to establish causal relationships (Robson, 2002; Saunders *et al.*, 2009). Other authors referred to this form of research as hypothesis testing. Hypothesis testing is typically used to clarify the characteristics of specific relationships, to indicate differences between groups of independent variables, to explain variance in dependent variables, or to predict outcomes (Sekaran, 2003).

### **4.5.4 Experimental**

In experimental research, a group of variables are studied to determine their cause-effect relationship using the scientific method (Thye, 2014). Often, experiments are viewed as laboratory studies, but this is not always the case; lab settings have no bearing on true experiments (Levitt & List, 2007). The definition of a true experiment is a study in which all variables except one are identified and controlled (Pirlott & MacKinnon, 2016). Experimental treatments are assigned randomly rather than naturally occurring groups being identified (Burtless, 1995).

This study followed a descriptive design. A *descriptive* study is also known as a statistical study, which describes phenomena in their current form. The purpose of descriptive study is to identify and obtain information about features of a particular group, group of people, or community (Akhtar, 2016:73).

## **4.6. RESEARCH PROCESS**

Research process encompasses the sequence of actions or steps necessary to conduct a research project and the desired progression of the project (Mishra & Alok, 2022:5).

### **4.6.1. Population**

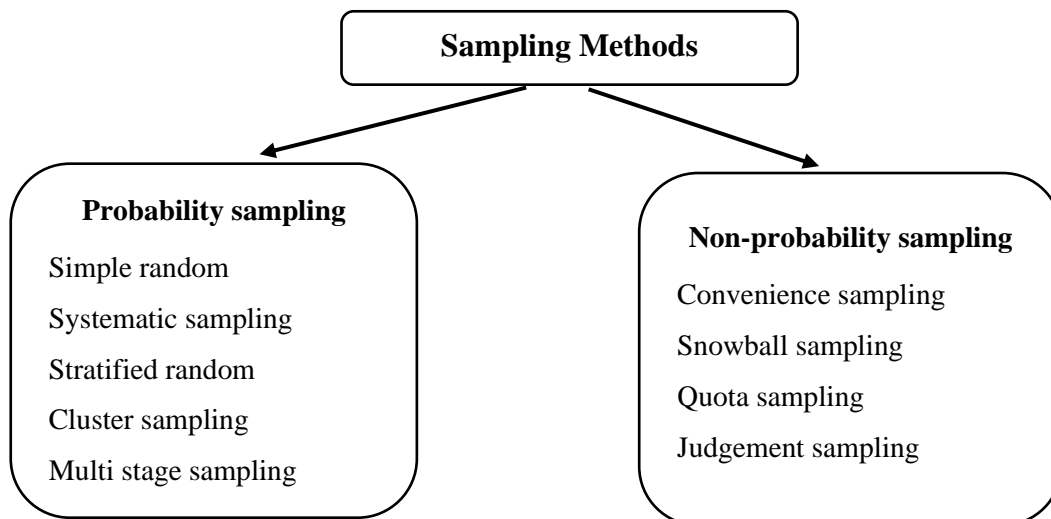
In every research project, items or units are used as study participants, constituting what is known as the population or universe (Kothari, 2004). According to Rahi (2017:3), a population

can be defined as all individuals or items for which one wishes to gain knowledge. In Punch’s (2009:359) definition, a population is the target group that we desire knowledge about but do not have direct access to. The target population was made up of 56 skills development providers, with a staff compliment of 400 employees in the North West Province as accredited by the relevant SETA(s) and listed on the database. This will include the owners or managers and employees of the skills development providers.

#### 4.6.2. Sample method

Palinkas, Horwitz, Green, Wisdom, Duan and Hoagwood (2013) define a sampling method as the population from which samples are drawn and to which sample data is generalised. As Malhotra and Birks (2007) explain, a smaller group of people can make inferences about a larger group of people. In addition to reducing the burden and cost of studying the whole target population, this type of selection is also beneficial. According to Cooper, Schindler and Sun (2003), there are three main reasons for sampling: faster data collection, more accurate results, and lower costs. The nature of the research project influences the sampling method selected. It could include both theoretical and practical concerns (Rahi, 2017:3). Sampling can be ordered into two types, i.e. probability sampling and non-probability sampling. See Figure 4.3 for sampling methods (Saunders *et al.*, 2009; Welman & Kruger, 2001:46; Levy & Lemeshow, 2008:18).

**Figure 4.3: Sampling methods**



Source: Taherdoost (2016:20)

#### **4.6.2.1. Probability sampling**

A probability sampling approach is a sampling method in which every sample unit has an equal chance of being chosen (Sharma, 2017). As per Alvi (2016:12), there are five types of probability sampling: simple random sampling, systematic random sampling, stratified random sampling, cluster sampling, and multi-stage sampling.

By definition, randomisation is a sampling method in which all units of the population have equal chances of being selected (Miratrix, Sekhon, Theodoridis & Campos, 2018). It can be determined using the sampling fraction  $n/N$ , where  $n$  represents the sample size and  $N$  represents the population size (Rahi, Alnaser & Abd Ghani, 2019). In this procedure, the researcher creates a numerical list of all sample sizes and then generates random numbers using a computer program (Dattalo, 2008).

##### **4.6.2.1.1. Systematic random sampling**

It is a probability sampling method in which the starting sample point is chosen at random and cases are chosen at regular intervals (Honigmann, 2003). For example, in this technique, the researcher will select the first number, which is 5, followed by the subsequent cases will select at regular intervals: 25, 35, 45, 55, and so on (Rahi, 2017:3).

##### **4.6.2.1.2. Stratified random sampling**

It is a sampling procedure in which each stratum is given an equal opportunity to be selected at random (Singh & Masuku, 2014). It gives each stratum an equal proportionate representation (Alvi, 2016:19).

##### **4.6.2.1.3. Cluster sampling**

Sampling strategy in which researchers draw samples from populations that are geographically separated and sometimes inaccessible at the exact time (Alvi, 2016:22).

##### **4.6.2.1.4. Multi-stage sampling**

Multi-stage sampling, also known as multi-stage cluster sampling, entails a series of steps (Hair, Money, Samouel & Page, 2007). The first procedure is to choose a random portion of the total cluster region. The second phase includes deciding on a specific region, and the last stage involves deciding on relevant objects for sample size (Taherdoost, 2016:21).

#### **4.6.2.2 Non-probability sampling**

Non-probability sampling consists of selecting units unknowingly or without any confirmation of their probability (Lucas, 2014:14).

##### **4.6.2.2.1. Convenience sampling**

A convenience sample refers to the collection of data from an easily accessible and close population (Obilor, 2023). An advantage of convenience sampling is to allow researchers to complete interviews or obtain responses in a cost-effective manner (Rahi *et al.*, 2019).

##### **4.6.2.2.2. Snowball sampling**

A snowball sampling technique involves contacting a small group of people who are relevant to the topic of research and then using them as referrals to reach out to others who are relevant (Rahi, 2017:3).

##### **4.6.2.2.3. Quota sampling**

The quota sampling technique defines the strata of the population and sets a quota for each element of the sample (Etikan & Bala, 2017). Because this type of sampling technique does not use probability sampling, the findings cannot be generalised (Barratt, Ferris & Lenton, 2015).

##### **4.6.2.2.4. Judgement sampling**

In judgement sampling, researchers use their own judgement to select a group of people with knowledge of the problem. Judgemental sampling is also called purposive sampling because it is conducted with a specific objective in mind. This sampling method is both convenient and inexpensive (Rahi, 2017:3).

This study made use of convenience sampling under non-probability sampling. This sampling type is very easy to implement and inexpensive to create samples; moreover, it is easy to collect data in a very short period of time (Bhardwaj, 2019:161).

#### **4.6.3. Sample frame**

The study population's realistic representation, which the researcher can identify and access, may be thought of as the sampling frame (Davis, Gallardo & Lachlan, 2012:162). The whole population from which the sample size will be drawn serve as the study's sampling frame. The

sample frame for this study comprised of 56 owners/managers and 400 employees of skills development providers in the North West Province.

#### **4.6.4. Sample size**

Based on Gupta's (2011:116) assertion, "the number of subjects in a study is called the sample size and refers to the elements to be included in a research study." As per Fabrigar, Porter and Norris (2010), a sample size determines the number of observations necessary to obtain estimates of parameters that match those in the population closely. A larger sample produces more accurate and robust statistical results, whereas a smaller sample produces less accurate and less reliable results (Hair, Risher, Sarstedt & Ringle, 2019; Sikhwari, 2015). The sample size for the quantitative research was aimed at 300 respondents from a population of approximately 400 employees, as adopted from previous studies on knowledge management that used around 150 to 400 respondents (Ghahroudi, Hoshino & Ahmadpoury, 2019:1955; Yang, 2011:18; Ansari, Youshanlouei & Mood, 2012:218). A convenience sampling technique was adopted for quantitative method.

In the case of qualitative research, this study made use of purposive sampling, which is one of the non-probability sampling techniques. The technique is regularly applied in qualitative research as it has the benefit of time and is less expensive to conduct while resulting in a variety of responses from the participants (Babbie, 2008:210). The sample size for the study was aimed at 56 owners or managers and was determined by reaching data saturation from the similarities or responses observed from the 18 participants which were the owners or managers.

#### **4.7. DATA COLLECTION**

Data collection methods describe the process used to acquire data from the appropriate respondents and research participants (Taherdoost, 2021). According to Leedy and Ormrod (2013), the data collection process begins after identifying the research problem and describing the research design. Data collection is defined as "the assembling of numerical data for quantitative study (Babbie & Mouton, 2010: 76), or textual data for qualitative study" (Flick, 2011:11).

As a result, data collection techniques enable researchers to compile information about their research subjects – which might be events, items, or subjects themselves – as well as the environments in which the information was collected (Saah, 2019). According to Quinlan (2011), data gathering must be systematic because random data collection may make it

impossible to provide a suitable response to the research objectives in a conclusive manner. Pandey and Pandey (2021:57) contend that there are numerous methods for gathering data for a research project, including questionnaires, interviews, document analysis and observation.

As per Zohrabi (2013), the various methods of data collection can complement one another, improving the dependability and validity of the information. This suggests that in a mixed-method research technique, questionnaires and interviews are typically used concurrently (Saah, 2019). According to Harris and Brown (2010), although qualitative interview data primarily gathers more in-depth insight into the actions, views, and beliefs of participants concerning a research problem under inquiry, surveys can provide proof of designs between large populations. In the process of data collection for quantitative and qualitative methods, skills development providers were approached and a letter of consent was presented as a tool for requesting a permission to participate in the study. The questionnaires were distributed and collected from the employees, while interviews were arranged and conducted with the owners or managers of the skills development providers in the North West province.

#### **4.7.1. Questionnaire**

In any research method, a questionnaire is without a doubt one of the main sources of data gathering (De Leeuw, 2012). As per Saunders *et al.* (2012), a questionnaire is a quantitative tool that has long been used in social science research to gather data on respondents' current and previous behaviour, their attitudes, and motivations for taking certain actions, their norms of conduct, and their social characteristics with regard to the subject under examination. However, according to De Vos and Strydom (2011:172), a questionnaire is "a set of questions on a form which is completed by the respondent in respect of a research project." The questionnaires are inexpensive, simple to administer, easy to complete, and simple to code and analyse, which reduce the need for additional preparation and costs (Roopa & Rani, 2012). Most importantly, questionnaires are a quick, easy (Kara, 2018), and reasonably priced approach to gather a great deal of data or information from a wide sample group (Blair, Czaja & Blair, 2013).

A self-administered questionnaire with closed-ended questions was utilised to gather quantitative data. The instruments was developed using past research studies that focused on the development of a framework for knowledge management (Ahmad, 2011:262; Dei, 2017:294). The questionnaire was distributed to the owners/managers and employees of skills development providers within the North West Province. This method was selected because of

its cost-effective and ease of administration contrasted with other survey methods. Furthermore, its administration is faster and simpler than other methods (Malhotra, 2007:138).

The questionnaire was developed in such a way that any respondent may respond to the questions by choosing from prepared options using the Likert scale. An array of five Likert-type items is combined into one composite variable or score to form a Likert scale. The Likert scale is typically used to evaluate respondents' attitudes and to provide a range of replies to a specific statement or topic (Quinlan, 2011). This implies that the Likert scale is a suitable instrument to evaluate respondents' attitudes in a quantitative research.

**Table 4.2: Likert scale representation**

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

Source: Janieson (2004)

In using a Likert scale, data from the questionnaire can be assessed effectively, and comparison of the answers could be achieved (Janieson, 2004).

#### **4.7.2. Interviews**

Interviewing is a methodical qualitative research method that involves talking and listening to participants while simultaneously writing down their responses to the questions posed. Another technique to gather qualitative information from people via dialogues is the interview (Saunders *et al.*, 2012). During interviews, a researcher can learn about the respondents' ideas, thoughts, and opinions concerning the subject under investigation (Roberts, 2020b). According to Quinlan (2011), conducting interviews is an effort to obtain first-hand information or data from an individual who is familiar with or knowledgeable about the issue being researched. However, according to Cohen *et al.* (2011), when a researcher conducts an interview, he or she is attempting to gather data or information from persons he/she believes hold the solution to the problem being looked into. As a result, interviews provide participants the chance to share their thoughts with the researcher who requires the data for their research (Roberts, 2020b).

According to Zohrabi (2013), the primary goal of conducting an interview is to uncover existing information that is provided as replies that the concerned researcher may analyse.

This study made use of face-to-face interviews with a duration of 30 minutes, which comprised many open-ended questions, at times followed by probes to direct the conversation and take into consideration full examination of the subject under study (Jennings, 2010:170; Remler & Van Ryzin, 2011:63). The face-to-face interviews were arranged with 18 owners or managers of the different skills development providers. Upon permission from the individual organisations to conduct the study, the researcher visited the organisations to gather data.

#### **4.8. DATA ANALYSIS**

In this study, mixed-methods research was used to balance the strengths of quantitative and qualitative approaches. The use of both quantitative and qualitative research techniques improves an understanding of the study problem compared to using either method alone (Kainth, 2010). The quantitative analysis comes first in the data analysis process, followed by the qualitative analysis (Bryman, 2017). Through the use of quantitative data analysis, the researcher is able to make sense of the vast number of replies received from the respondents and provide the summary findings in numerical and statistical terms. Many techniques, including graphs, statistics, and charts, are used to analyse quantitative data. A data analysis format examines, describes, explores, and presents relationships and trends within a dataset. According to Wisdom and Creswell (2013), merely gathering and analysing quantitative and qualitative data is insufficient because, after the facts have been gathered, they must be combined to provide a more comprehensive picture of the issue than they would have done alone. As a result, the dataset would be mixed because quantitative research struggles to comprehend the setting in which individuals respond. For example, throughout the quantitative data analysis procedure, participant voices are suppressed (Yilmaz, 2013). Therefore, data collection for both the quantitative and qualitative design was analysed using a variety of research approaches in this study.

##### **4.8.1. Quantitative data analysis**

Quantitative data collected through the questionnaires was captured into Microsoft Excel and imported into SPSS 28 software for further processing. The data analysis involved, among others, descriptive statistics with the aim of summarising the demographics data and presenting the Likert scale responses in the form of tables, figures and percentages (Kaliyadan & Kulkarni,

2019:83). Cronbach's alpha was utilised to determine the reliability of the instruments and the validity was achieved through the content, construct, convergent and discriminant validity. The item-to-total correlation matrix and correlation matrix analyses were performed as part of data analysis.

#### **4.8.2 Qualitative data analysis**

Qualitative data analysis is a procedure that requires sequential steps to be applied, from the particular to the general, and including various degrees of analysis (Creswell & Creswell, 2017). In this study, thematic analysis with the help of Atlas.ti v. 8.4.5 software program was utilised for qualitative data analysis. As per Kiger and Varpio (2020:846), when attempting to understand experiences, opinions, or behaviour patterns across a dataset, thematic analysis is an effective method of analysis.

The qualitative study's data was gathered by conducting interviews with participants. Throughout these interviews, the researcher used audio-recordings. The analyses in this research were necessitated by a careful evaluation of data recording and coding in the content analysis (Saah, 2019:148). As a result, thematic analysis was used to analyse qualitative data. Through the use of Atlas ti software for data analysis, the following major themes emerged from the 18 interview transcript; types of knowledge, sources of knowledge acquisition, knowledge as a strategic asset, information and communication technology, knowledge and staff retention, rewards and incentives for KM, knowledge sharing, learning and development and barriers in knowledge management. Each theme identified was illustrated in the form of network, inclusive of the sub-themes developed and the direct quotations from the transcripts were presented..

##### **4.8.2.1 Thematic analysis**

Thematic analysis is a qualitative research method that focuses on identifying, evaluating, and documenting patterns, also known as themes, within a dataset (Javadi & Zarea, 2016). Themes are patterns found within datasets that are fundamental to describing a phenomenon and are linked to a specific research problem (Joffe, 2011). Thematic analysis is used in qualitative research studies to find, examine, arrange, describe, and report themes within a data collection to create reliable and meaningful results (Nowell, Norris, White & Moules, 2017). As a result, theme analysis can be defined as a technique that strives to both represent reality and deconstruct or dismantle the surface of actuality (Frost, 2021).

## 4.9. RELIABILITY

The degree to which an assessing tool may be repeated and still be dependable is referred to as reliability. To put it another way, by reliability, any measuring technique generates the same results in repeated trials (Maree, 2010:215). Reliability, according to Rubin and Babbie (2011:194), is the capacity of a specific technique to consistently provide the same result when used on the same item over time. Reliability helps to minimise mistakes and biases while achieving consistent results (Hammond & Wellington, 2013:150). There are techniques that are frequently used to measure dependability, namely the Cronbach's alpha reliability, composite reliability (CR) and the average value extracted (AVE) (Maziriri, 2016:86). The reliability of this study was determined through the Cronbach's alpha technique.

### 4.9.1. Cronbach's alpha

Cronbach's alpha reliability is one of the most widely used reliability measures in the social and management sciences. Cronbach's alpha reliability is defined as the reliability of a total (or average) of  $q$  measures, where the  $q$  measurements can be  $q$  raters, occasions, alternate forms, or questionnaire/test items (Bonett & Wright, 2014:3). Internal consistency assesses how well the questionnaire items evaluate the same notion (Muijs, 2011:63). Drost (2011) claims that internal consistency reliability is defined as the correlation of every component with the total of every other component. It is a measure of internal consistency among items that determine the average correlation among all items in question and is employed for multi-item scales. A high level of internal consistency suggests a high level of universal application across the measurement's elements. Cohen and Golan (2007:506) advocate using the following Cronbach's alpha coefficient guidelines:

**Table 4.3: Guidelines for Cronbach's alpha coefficient**

Cronbach's alpha coefficient	Reliability
0.90	very highly reliable
0.80-0.90	highly reliable
0.70-0.79	reliable, satisfactory

0.60-0.69	marginally/minimally reliable
-----------	-------------------------------

Source: Cohen and Golan (2007:506)

To ensure the accuracy or truthfulness of the questionnaire, the Cronbach alpha coefficient approach was used in this study to enhance the survey instrument's reliability (Tavakol & Dennick, 2011). The threshold of 0.70 Cronbach alpha coefficient was adopted for this study.

#### **4.10. VALIDITY**

According to Kapondoro, Iwu, and Twum-Darko (2015:7), validity relates to the extent to which a measurement instrument evaluates what it is supposed to measure. Validity is defined as the quality of study findings that induces one to believe they are authentic (Uysal & Madenolu 2015:39). Punch (2014:239) defines validity as "the extent to which an instrument accurately measures what it is intended to measure." Validity in quantitative data can be improved through rigorous sampling, suitable instrumentation, and appropriate statistical data management (Cohen & Golan 2007:133). There are three sorts of validity: content, construct, and convergent (Bolarinwa, 2015).

##### **4.10.1. Content validity**

Kumar (2014:214) defines content validity as the extent to which statements or questions accurately depict the subject being measured. To assess content validity, the researcher would compare the contents of the measuring instrument's items to the suitable field for the construct being assessed (Wagner, Kawulich & Garner, 2012:81). A detailed and suitable literature research analysis of earlier instruments and consultation with academic experts to validate the relevance of items/statements addressed in the questionnaire were conducted to demonstrate content validity.

##### **4.10.2. Construct validity**

Construct validity is the extent to which the study findings complement the theory on which the research effort is based (McBurney & White, 2009:130). The construct validity instrument measures an invisible (intangible) attribute that is assumed to exist based on people's behavioural patterns (Ary, Jacobs, Sorensen & Walker, 2014:31). Construct validity is concerned with the degree to which a measure adheres to theoretic expectations (Punch, 2014:240). According to McBurney and White (2009:130), to assess whether an instrument

delivers construct-valid data, it must assess the construct it is intended to assess as well as forecast the findings that are connected to the theoretical construct it is designed to measure. In this study, construct validity was determined through the convergent and discriminant validity.

#### **4.10.3. Convergent validity**

Convergent validity, as defined by Moutinho and Hutcheson (2011:327), is a measure of the extent to which the scale's items correspond in the same direction as other instruments assessing a similar concept. In general, an instrument has good convergent validity when its results are comparable to those of other tested instruments measuring the same variables in the same area of study (Johnson & Christensen, 2010:148). A correlation analysis was utilised in this study to determine the convergent validity of the variables in the questionnaire.

#### **4.10.4. Discriminant validity**

Discriminant validity refers to the degree to which a latent variable may be distinguished from other latent variables. It implies the extent to which a latent variable demonstrates the ability to articulate a greater amount of variance in the observable variables that are linked to it (Farrell & Rudd, 2009). The correlations of constructs with values less than 1 were used to determine discriminant validity in this study.

### **4.11. TRUSTWORTHINESS**

#### **4.11.1. Credibility**

Credibility institutes whether the research results characterise believable facts drawn from the participants' original data and is an accurate analysis of the participants' original opinions (Anney, 2014:275). In this study, the researcher established consistency of the investigation by implementing triangulation, which "involves the use of multiple and different methods, investigators, sources, and theories to obtain corroborating evidence" (Onwuegbuzie & Leech, 2007: 239).

#### **4.11.2. Dependability**

According to Bitsch (2005:86), dependability refers to "the stability of findings over time." Dependability involves participants' evaluation of the findings, interpretation and recommendations of the study such that all are supported by the data as received from

informants of the study (Cohen *et al.*, 2011). The following strategies are used to establish dependability: an audit trail, code-recode strategy, stepwise replication, and peer examination (Carcary, 2020:167; Saldaña, 2021:10; Chilisa & Preece, 2005; Guba, 1981:85). A peer examination was used to establish dependability for this study.

#### **4.11.3. Transferability**

Transferability is the extent to which the findings of qualitative research can be applied to other settings or situations with different respondents (Yilmaz, 2013:320). According to Bitsch (2005:85), the “researcher facilitates the transferability judgment by a potential user through thick description”. Thick description involves the researcher in elucidating all research processes from data collection, context of the study to production of the final report. The thick description helps other researchers to replicate the study using similar conditions within other contexts or settings (Anney, 2014:277). For this study, the thick description of qualitative data could be applied in other contexts.

#### **4.11.4. Confirmability**

Confirmability is described as the extent to which the research findings could be confirmed or verified by other investigators (Gill, Gill & Roulet, 2018:204). Confirmability is “concerned with establishing that data and interpretations of the findings are not figments of the inquirer’s imagination but are clearly derived from the data” (Tobin & Begley, 2004: 392). In this study, confirmability was achieved through the audio recordings from the interviews.

### **4.12. ETHICAL CONSIDERATIONS**

The term *ethics* refers to a set of moral standards that pertain to the quality of research processes in terms of their conformity to professional, legal, and social obligations to study participants (Cohen, Manion & Morrison, 2017). Babbie and Mouton (2004) emphasise the significance of managing these ethical principles that define acceptable and unethical research behaviour. The procedures that were used in this study complied with all the ethical standards that are required to ensure the responsibility of ethics. Furthermore, ethics clearance was acquired by the central ethics committee of the North-West University. The following ethical guidelines were followed to guarantee that the study adheres to the ethical requirements.

- The researcher requested permission from the owner/manager of the skills development providers to conduct the study.

- The researcher informed the respondents and participants about the purpose of the study.
- Involvement in the research was voluntary. Respondents and participants were not compelled to contribute to this study.
- The respondents and participants' confidentiality was respected.
- The data collection and gathering instruments were not inclusive the names of the respondents and participants.
- The privacy of the respondents and participants was upheld through the research.
- Data was analysed as an aggregate and not linked to any respondents and participants.

#### **4.13. CHAPTER SUMMARY**

In this chapter, the focus was on the description of the methodology conducted in this study. The first part of this chapter identified the research paradigms employed, the research method utilised, and the research design followed in this study. In the second part of the chapter, the research process entailed the target population of the study, together with the sample method and the simple size used. Thirdly, the processes of data collection, gathering and analysis were presented, followed by the reliability and validity of the data collection, and gathering instruments. Lastly, the trustworthiness and the ethical considerations were described.

## CHAPTER 5

### QUANTITATIVE DATA ANALYSIS AND INTERPRETATION OF THE RESULTS

#### 5.1. CHAPTER OVERVIEW

The previous chapter outlined the research methodology followed in this study. The methodology was guided through the selection of research paradigms and the research method that directed the adoption of a mixed-method approach. In this chapter, the data analysis and interpretation of the results are presented. The presentation of the results is based on the objectives of the study. This presents the quantitative data analysis from the structured questionnaires with a focus on the descriptive analysis, followed by the reliability and validity of the questionnaire.

#### 5.2. QUANTITATIVE DATA ANALYSIS

The quantitative study simple size was aimed at 300 employees from skills development providers in the North West Province in South Africa. As a result, 248 of the 300 questionnaires distributed to organisations that offer skills development were returned. There were 248 questionnaires, 237 of which were fully completed, and 11 of which were not. Table 5.1 illustrates the response rate of the completed questionnaires.

**Table 5.1: The response rate**

<b>Respondents</b>	<b>No of distributed questionnaires</b>	<b>Number of completed questionnaires</b>	<b>Response rate</b>
Employees of skills development providers	300	237	79%

Table 5.1 presents the response rate of the study. A total of 300 questionnaires were distributed to the employees of the skills development providers and 237 questionnaires were returned. The response rate was 79%. According to Holtom, Baruch, Aguinis and Ballinger (2022:1561), a greater response rate, enables the researcher to comprehend the quality, suitability, and representativeness of a sample. A pilot study was not conducted because the study made use

of validated instruments and the questions had been used widely by other researchers who had conducted studies on knowledge management (Dei, 2017; Ahmad, 2011).

Data was collected with the use of a self-administered questionnaire. The questionnaire was divided into small factors by means of factor analysis. Data analysis for the quantitative section of the study included examining the classification's validity and reliability, scanning for any errors, detecting possible data collection shortcomings, discarding responses with data that was missing, and analysing its conclusions (Taherdoost, 2016). Microsoft Excel spreadsheets were used to record the quantitative data, and SPSS statistical software was utilised to examine the data. The characteristics of the employees from skills development providers who answered the questionnaires are described using descriptive statistical methods. The statistical methods efficiently summarise massive data and information for simple comprehension. Tables, pie charts, column graphs, and bar graphs were used to display the frequencies and percentages of respondents' responses that represented their demographic information and their views on knowledge management within skill development providers. The questionnaire comprised two main sections, namely Section A, which consisted of the demographics; and Section B, which included the following subheadings: categories of knowledge, knowledge management process (KMP), knowledge management leadership (KML), knowledge management culture (KMC), knowledge management technology (KMT), knowledge management measurement (KMM), drivers of knowledge management (DKM), system tools that facilitate knowledge management (STKM), specification of the knowledge management (SKM), knowledge management barriers and challenges (KMBC), and lastly, the critical success factors of knowledge management systems (CSF).

### **Section A of the questionnaire**

This section addressed the demographic information of the employees of the skills development providers who responded to the questionnaires. In particular, in social science research, questionnaires are one of the most often utilised data collection methods. In research, obtaining pertinent information in the most accurate and valid way possible is the major goal of questionnaires (Taherdoost, 2016). The results were based on the experiences of the employees of SDPs. The analysis starts with demographic information such as the age, highest qualification, working experience and job title, followed by the knowledge management assessment in the skills development providers.

### 5.3. DEMOGRAPHIC PROFILE OF THE RESPONDENTS

This section presents an analysis of the demographic information of the respondents. The information includes the age, highest qualification, working experience and job title of the SDPs' employees. This study made use of tables and graphs to provide the analysis of the items included in Section A of the questionnaire. The figures present data from the opinions of the respondents, followed by summaries.

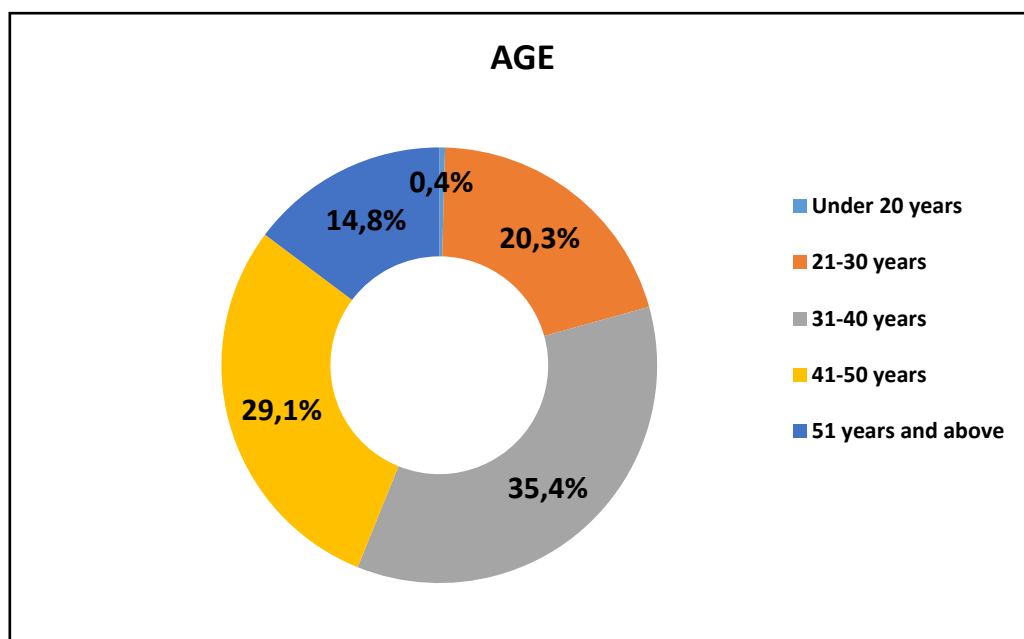
#### 5.3.1. Age of respondents

The frequencies and percentages of the respondents' age are provided in Table 5.2 and in Figure 5.1, respectively.

**Table 5.2: Age category of respondents.**

Variable	Category	N	n	%
Age	Under 20 years	237	1	0.4%
	21-30 years	237	48	20.3%
	39-40 years	237	84	35.4%
	41-50 years	237	69	29.1%
	51 years and over	237	35	14.8%

**Figure 5.1: Age category of respondents**



The respondents' ages ranged from younger than 20 years to 51 years and older. Most respondents were between 31 and 40 years (35.4%; n=84), followed those employees who are between 41 and 50 years (29.1%; n=69). Around 20.3% (n=48) of the respondents were aged between 21 and 30 years. The respondents aged 51 years and above represent 14.8% (n=35), followed by 0.4% (n=1) of the respondents who are under 20 years of age. The findings reveal that the SDPs are dominated by employees aged between 31 and 40 years.

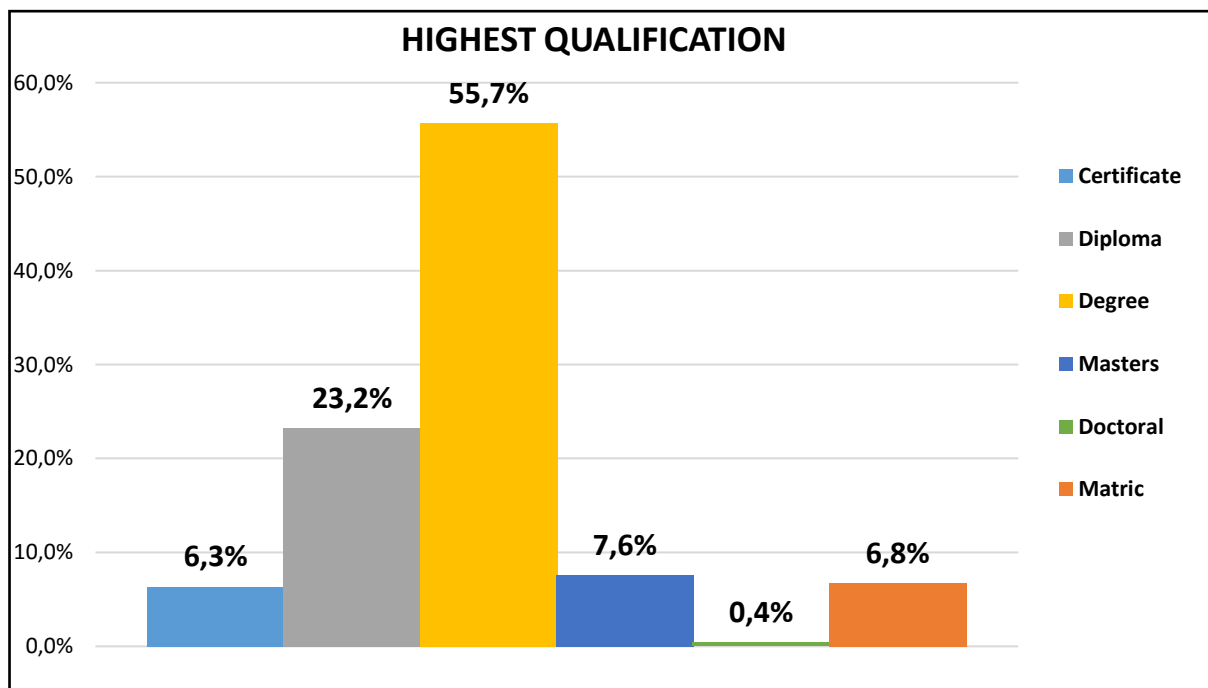
### 5.3.2 Highest qualification of respondents

The frequencies and percentages of the respondents' highest qualification are provided in Table 5.3 and in Figure 5.2, respectively.

**Table 5.3: Highest qualification of respondents**

Variable	Category	N	n	%
<b>Highest qualification</b>	Certificate	237	15	6.3%
	Matric	237	16	6.8%
	Diploma	237	55	23.2%
	Degree	237	132	55.7%
	Master's	237	18	7.6%
	Doctoral	237	1	0.4%

**Figure 5.2: Highest qualification of respondents**



The findings show that the majority of the respondents are in possession of a degree qualification (55.7%; n=132), followed by those who have a diploma (23.2%; n=55), master's degree (7.6%; n=18), matric (6.8%; n=16), certificate (6.3%; n=15), and doctoral (0.4%; n=1). It is revealed that most of the employees (55.7%; n=132) within the skills development providers are qualified up to a level of a degree.

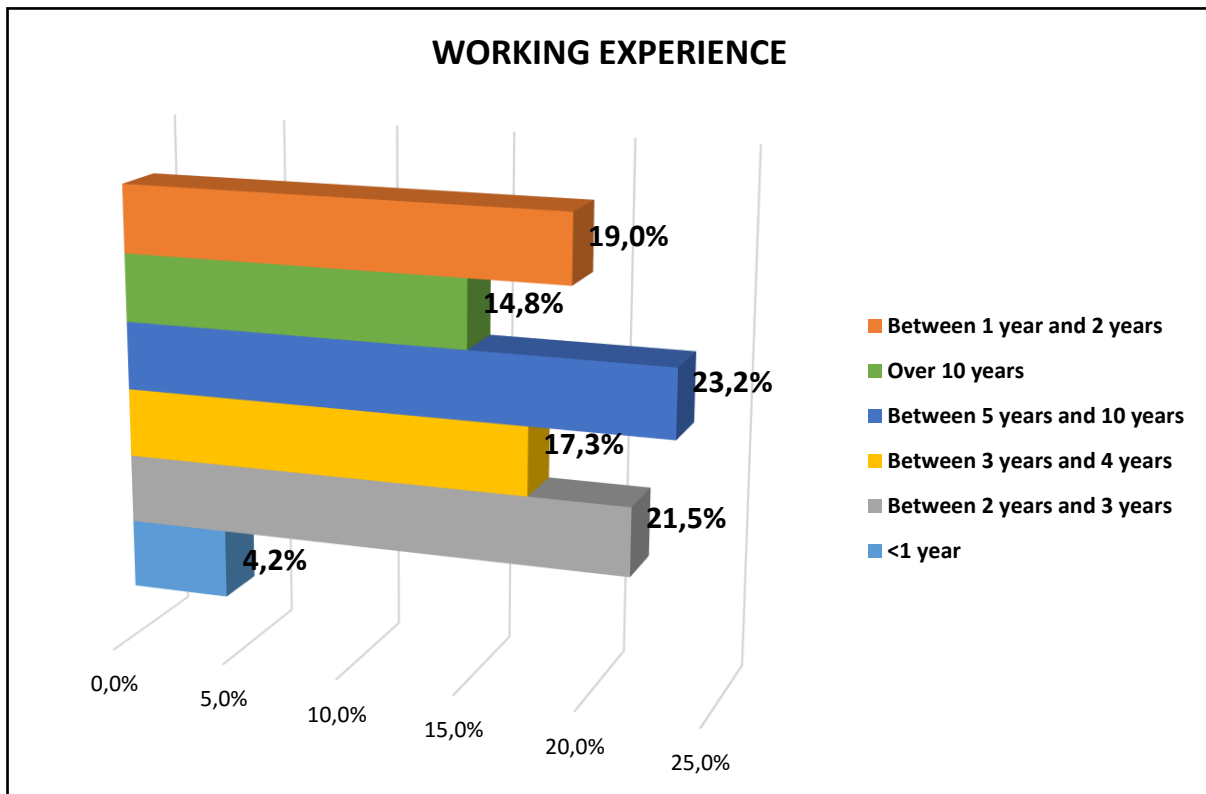
### 5.3.3. Working experience of respondents

The frequencies and percentages of the number of employees are provided in Table 5.4 and in Figure 5.3, respectively.

**Table 5.4: Working experience of respondents**

<b>Variable</b>	<b>Category</b>	<b>N</b>	<b>n</b>	<b>%</b>
<b>Working experience</b>	<1 year	237	10	4.2%
	Between 1 year and 2 years	237	45	19.0%
	Between 2 years and 3 years	237	51	21.5%
	Between 3 years and 4 years	237	41	17.3%
	Between 5 years and 10 years	237	55	23.2%
	Over10 years	237	35	14.8%

**Figure 5.3: Working experience of respondents**



The findings presented in Table 5.4 and Figure 5.3 present that the majority of the employees working in the SDPs have work experience between five and 10 years (23.2%; n=55), followed by those who have between two and three years (21.5%; n=51), between one and 2 years (19.0%; n=45), and between three and four years' experience (17.3%; n=41). Moreover, the employees who have more than 10 years of working experience were represented by 14.5% (n=35), followed by employees with less than one year's experience (4.2%; n=10). The findings show that many of the skills development providers have a human capital component with work experience ranging between five and 10 years (23.2%; n=55).

### 5.3.4. Job title of respondents

The frequencies and percentages of the number of employees are provided in Table 5.5 and in Figure 5.4, respectively.

**Table 5.5: Job title of respondents**

Variable	Category	N	n	%
<b>Job title</b>	Administrator	237	74	31.2%
	Facilitator	237	79	33.3%
	Assessor	237	63	26.6%
	Moderator	237	10	4.2%
	Quality assurer	237	11	4.6%

**Figure 5.4: Job title of respondents**

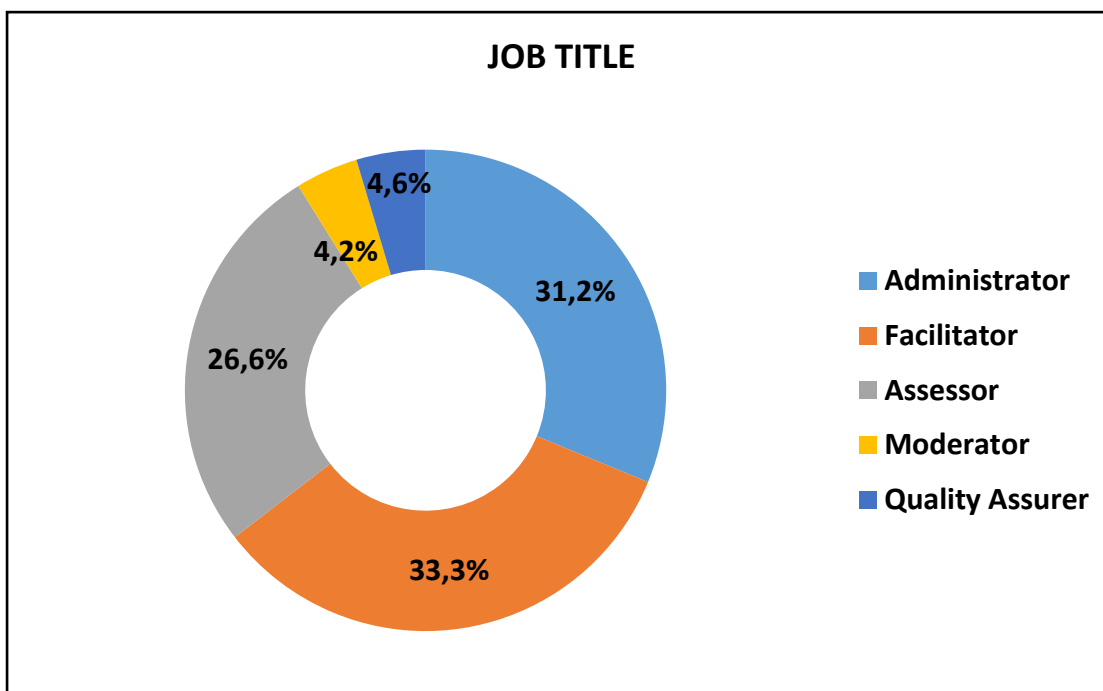


Table 5.5 and Figure 5.4 describe that 33.3% (n=79) of the respondents are working as facilitators, 31.2% (n=74) as administrators, 26.6% (n=63) as assessors, followed by 4.6% (n=11) quality assurers and 4.2% (n=10) moderators. The findings indicate that the majority (33.3%; n=79) of the employees in the skills development providers are employed as facilitators. In the process of data collection, it was discovered that within the SDPs, a facilitator can also work as a moderator, which is why the number of moderators is low. Moreover, the

role of quality assurer in most cases is performed by the officials from Sector Education and Training Authorities (SETAs). However, some of the managers within the SDPs take initiative of overseeing the quality of work before monitoring and evaluation by SETAs officials.

### **5.3.5. Summary of demographics responses**

The demographic information does influence knowledge management within the organisations. As per the analysis of the respondents' demographic responses, it is well noted that the skill development providers in the North West Province of South Africa are dominated by employees between the ages of 31 and 40 years (35.4%; n=84). Older workers are regarded as having higher qualifications and skills and are more knowledgeable. Contrarily, young people enter organisations with new ideas and vigour, along with their will to succeed and compete (El Badawy & Magdy, 2015). Pejorava and Klimek (2014) contend that an organisation's knowledge foundation is dependent on senior workers who are the critical factor in its ability to remain competitive. Therefore, all initiatives related to knowledge management should be focused on them. Furthermore, the majority (55.7%; n=132) of the employees are in possession of a degree as the highest qualification. It is suggested that knowledge management is somewhat influenced by the level of education. The likelihood of knowledge management within an organisation decreases due to lower education levels (Ismail & Yusof, 2009). 23.2% (n=55) of the employees have work experience of between five and 10 years. According to Kamau, Senaji and Nzioki (2019), employees with more than five years of work experience have had enough time to gain correct and significant knowledge about the company. Moreover, they are in a better position to facilitate knowledge management. Lastly, 33.3% (n=79) of the employees are employed as facilitators. It has been shown that KM is influenced by job title, either core or administrative, and it is suggested that senior employees frequently serve as mentors to junior employees in the organisations (Ismail & Yusof, 2009). In this instance, the facilitators are the ones performing the core function of imparting skills and developing trainees within the SDPS. With such a responsibility, the facilitators need to be knowledgeable and capacitated.

## **5.4. RELIABILITY AND VALIDITY OF THE QUESTIONNAIRE**

It is essential to consider the reliability and validity of the instrument used when interpreting study results. This is because data reliability and validity are crucial for all measures since they reveal how reliable and consistent the instrument being tested is when it is used for the examination. According to Heale and Twycross (2015), reliability is determined by how

consistently the results hold up over time and how accurately they reflect the entire sample being studied. Therefore, the research tool was regarded as reliable if the study's results could be replicated using a similar methodology. This indicates that when an instrument for testing is used often and the results are consistent, the measurement instrument is reliable. However, validity is the degree to which what is supposed to be examined is actually measured and how valid the findings of the study are (Heale & Twycross, 2015).

### 5.5. RELIABILITY TEST OF THE MEASUREMENT SCALES

Cronbach's alpha was utilised to determine the reliability of the instruments. A value of above 0.7 is required for acceptable reliability (Lobiondo & Haber, 2013; Shuttleworth, 2015). According to Table 5.6, the Cronbach's alpha values for each research construct range from 0.799 to 0.949. Since all these values are greater than 0.7, as recommended by Samuels (2017), the results therefore validate the reliability of the measures utilised in this study.

**Table 5.6: Reliability assessment**

<b>KMP</b>	10	0.934
<b>KML</b>	7	0.892
<b>KMC</b>	2	0.924
<b>KMT</b>	5	0.799
<b>KMM</b>	6	0.896
<b>DKM</b>	11	0.940
<b>STKM</b>	11	0.877
<b>SKM</b>	7	0.949
<b>KMBC</b>	12	0.934

*Note: KMP = knowledge management process; KML = knowledge management leadership; KMC = knowledge management culture; KMT = knowledge management technology; KMM = knowledge management measurement; DKM = drivers for knowledge management; STKM = system tools that facilitate knowledge management; SKM = specification of the knowledge management; KMBC = knowledge management barriers and challenges*

## 5.6. VALIDITY

Validity tests were conducted, and convergent validity and discriminant validity were evaluated. Both tests are described below as well as the findings.

### 5.6.1. Convergent validity

#### Item-to-total correlation values

By explaining the variance of the items, convergent validity determines the degree to which a construct's indicators converge (Sarstedt, Ringle, Smith, Reams & Hair Jr, 2014). In addition to determining the convergent validity of measurement items by investigating the correlations in the item-total index (Nusair & Hua, 2010), correlations in the item-total index can be used to determine the discriminant validity of measurement items. According to Nusair and Hua (2010), items have a high level of convergent validity if they load significantly on their shared construct. Table 5.7 below demonstrate how the convergent validity in this study was achieved through the use of item-to-total correlation values.

**Table 5.7: Item-to-total correlation values**

Item	Item-to-total correlation values
KMP1	0.821
KMP2	0.839
KMP3	0.562
KMP4	0.816
KMP5	0.817
KMP6	0.789
KMP7	0.810
KMP8	0.821
KMP9	0.685
KMP10	0.559
KML1	0.676
KML2	0.765
KML3	0.704
KML4	0.747
KML5	0.683
KML6	0.637
KML7	0.621
KMC1	0.859
KMC2	0.859
KMT1	0.571

KMT2	0.627
KMT3	0.559
KMT4	0.546
KMT5	0.673
KMM1	0.633
KMM2	0.728
KMM3	0.756
KMM4	0.742
KMM5	0.741
KMM6	0.716
DKM1	0.687
DKM2	0.638
DKM3	0.657
DKM4	0.775
DKM5	0.798
DKM6	0.745
DKM7	0.763
DKM8	0.780
DKM9	0.744
DKM10	0.771
DKM11	0.782
STKM1	0.542
STKM2	0.653
STKM3	0.562
STKM4	0.534
STKM5	0.544
STKM6	0.704
STKM7	0.702
STKM8	0.462
STKM9	0.653
STKM10	0.382
STKM11	0.699
SKM1	0.826
SKM2	0.826
SKM3	0.850
SKM4	0.752
SKM5	0.837
SKM6	0.864
SKM7	0.834
KMBC1	0.606
KMBC2	0.673
KMBC3	0.734

KMBC4	0.729
KMBC5	0.751
KMBC6	0.790
KMBC7	0.690
KMBC8	0.699
KMBC9	0.744
KMBC10	0.673
KMBC11	0.718
KMBC12	0.714

### **5.6.2. Discriminant validity**

#### **Inter-construct correlation matrix**

Hair, Hult, Ringle and Sarstedt (2014) state that to determine whether discriminant validity exists, it is necessary to determine whether the observed variable has a higher loading on its own construct than on any other construct. As suggested by Chinomona (2011), the correlation between the research constructs must be less than 1.0 to ascertain discriminant validity. As demonstrated in Table 5.8, the inter-correlation values for all paired latent variables are less than 1, indicating the existence of discriminant validity.

**Table 5.8: Correlation between variables**

		KMP	KML	KMC	KMT	KMM	DKM	STKM	SKM	KMBC
KMP	Pearson correlation	1								
	Sig. (2-tailed)									
KML	Pearson correlation	.747**	1							
	Sig. (2-tailed)	.000								
KMC	Pearson correlation	.409**	.553**	1						
	Sig. (2-tailed)	.000	.000							
KMT	Pearson correlation	.402**	.537**	.469**	1					
	Sig. (2-tailed)	.000	.000	.000						
KMM	Pearson correlation	.401**	.521**	.540**	.620**	1				
	Sig. (2-tailed)	.000	.000	.000	.000					
DKM	Pearson correlation	.457**	.564**	.616**	.521**	.664**	1			
	Sig. (2-tailed)	.000	.000	.000	.000	.000				
STKM	Pearson correlation	.234**	.268**	.285**	.362**	.445**	.468**	1		
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000			
SKM	Pearson correlation	.683**	.661**	.319**	.383**	.335**	.502**	.296**	1	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000		
KMBC	Pearson correlation	-.400**	-.373**	-.260**	-.235**	-.226**	-.312**	-.145*	-.353**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.025	.000	

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

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

*Note: KMP = knowledge management process; KML = knowledge management leadership; KMC = knowledge management culture; KMT = knowledge management technology; KMM = knowledge management measurement; DKM = drivers for knowledge management; STKM = system tools that facilitate knowledge management; SKM = specification of the knowledge management; KMBC = knowledge management barriers and challenges*

## Section B of the questionnaire

This section addressed the knowledge management assessment within the skills development providers, which addressed the following objectives of the study: (i) to evaluate the KM processes (creation, capturing, retention and sharing); (ii) to assess the KM enablers (leadership, culture, technology and strategy); and (iii) to analyse the KM systems and their impact on the skills development providers.

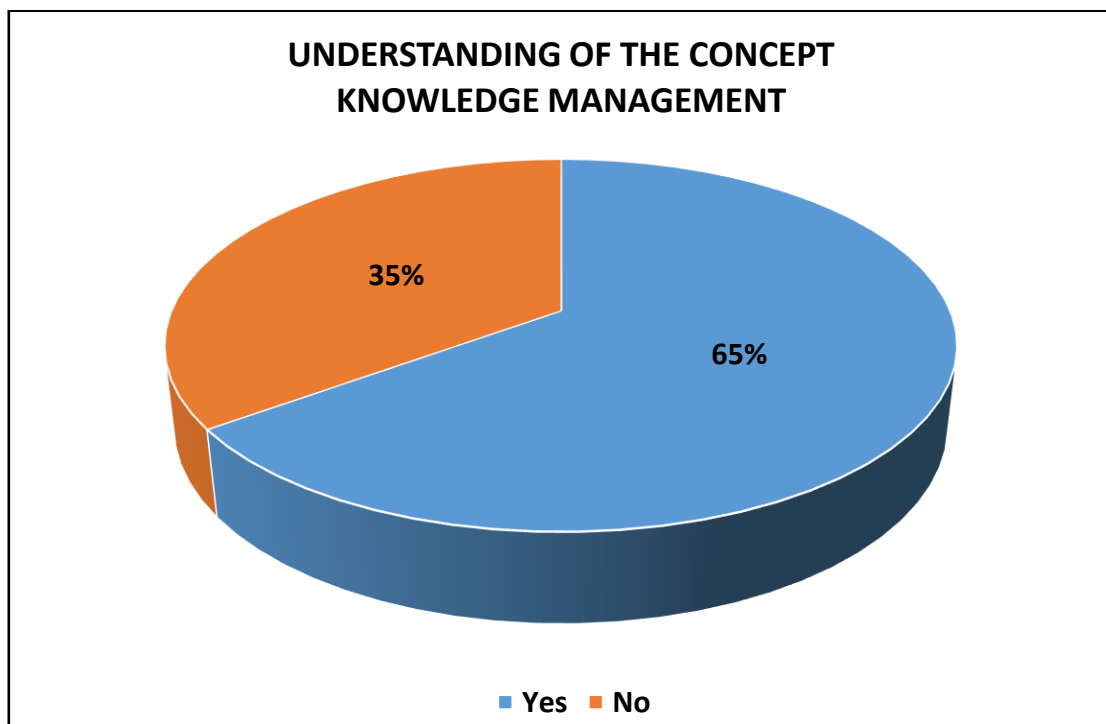
### 5.7. CATEGORIES OF KNOWLEDGE

The frequencies and percentages of the understanding and familiarity of the concept of knowledge management are provided in Table 5.9 and Figure 5.5.

**Table 5.9: Understanding and familiarity of the concept of knowledge management**

Variable	Category	N	n	%
Understanding and familiarity of the concept of knowledge management	Yes	237	154	65%
	No	237	83	35%

**Figure 5.5: Understanding and familiarity of the concept of knowledge management**



In order to establish the existence of knowledge management practices within the skills development providers, it was important to determine the respondents' level of understanding and familiarity of the concept of knowledge management. The assessment in Table 5.9 and in Figure 5.5 presented that 65% (n=154) of the respondents revealed that they were familiar with the concept of knowledge management, while 35% (n=83) of the respondents were not familiar with the concept. From the findings, it is revealed that 65% (n=154) of the employee within the SDPs are familiar with or understand the concept of knowledge management. It was discovered that the employees of the SDPs have an understanding and familiarity of the concept knowledge management.

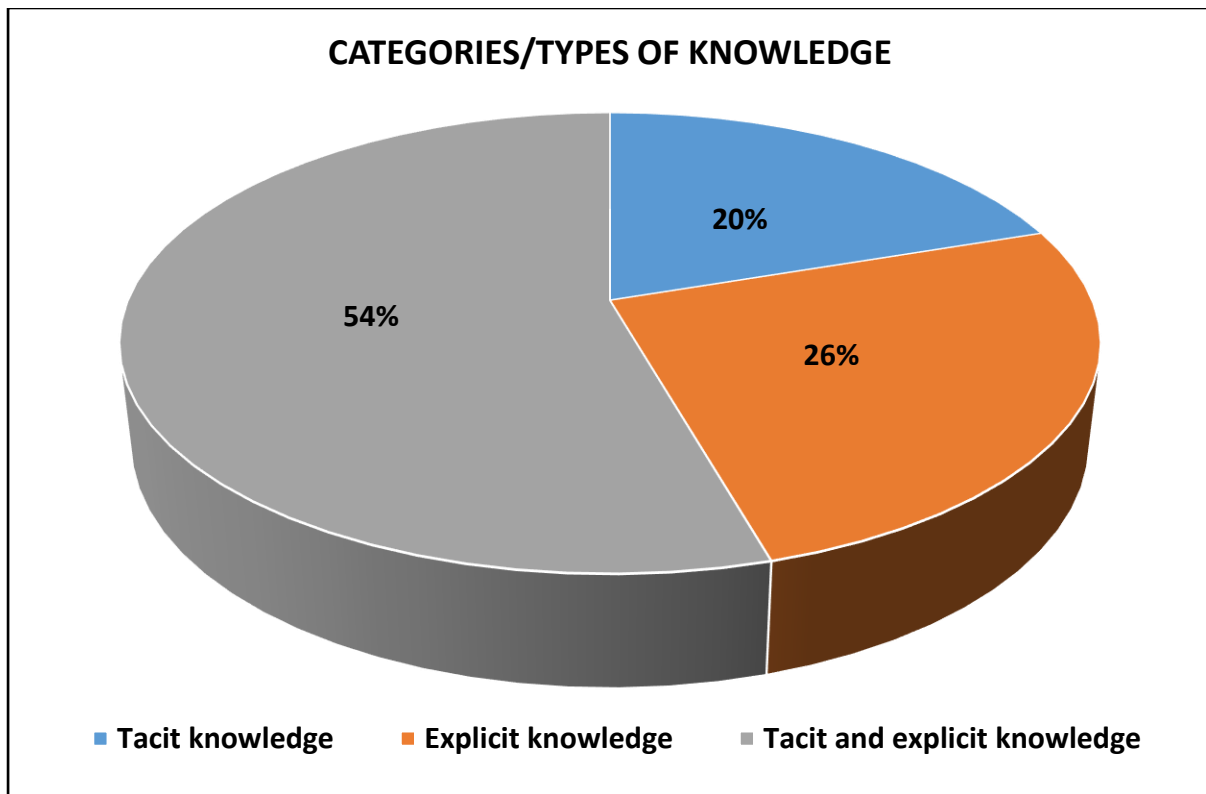
### 5.7.1. TYPES OF KNOWLEDGE AVAILABLE IN THE ORGANISATION

The frequencies and percentages of the categories/types of knowledge available at the organisation are provided in Table 5.10 and Figure 5.6.

**Table 5.10: Types of knowledge available in the organisation**

<b>Variable</b>	<b>Category</b>	<b>N</b>	<b>n</b>	<b>%</b>
<b>Types of knowledge</b>	Tacit	237	47	20%
	Explicit	237	61	26%
	Tacit and explicit	237	129	54%

**Figure 5.6: Types of knowledge available in the organisation**



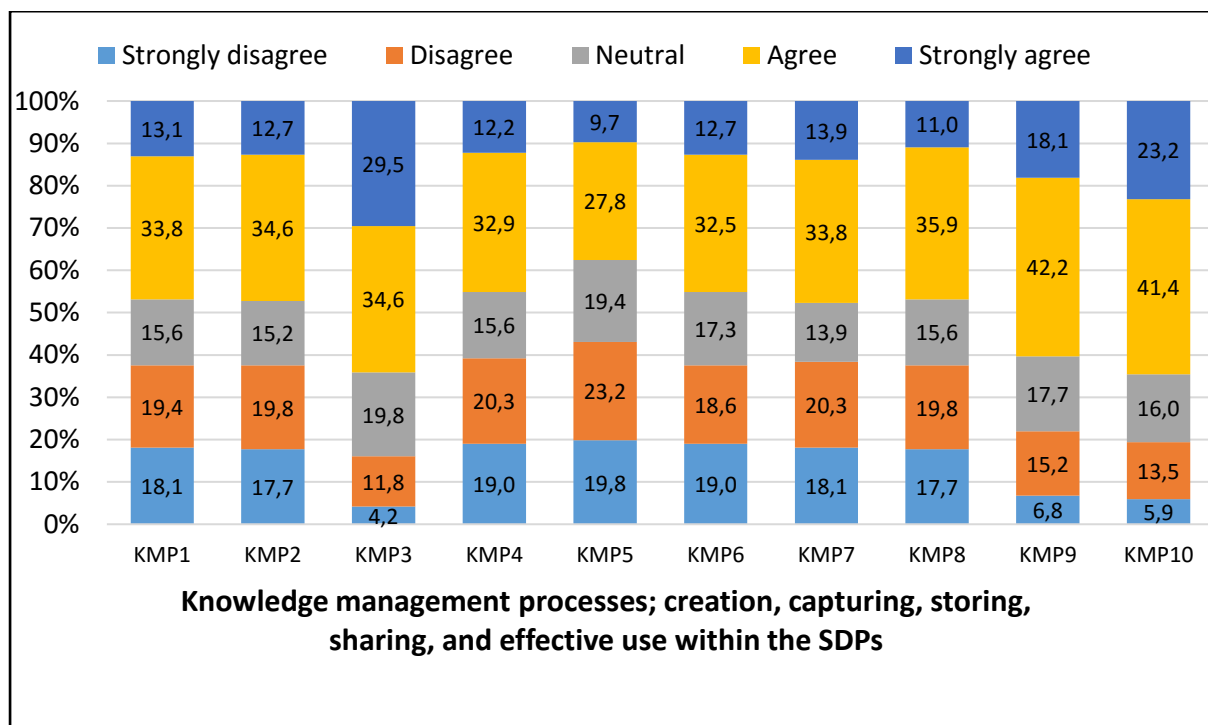
In this question, the respondents were asked to recognise the categories/types of knowledge present in the organisation; 20% (n=47) of the respondents believed that tacit knowledge is present in the skills development providers. Furthermore, 26% (n=61) of the respondents indicated that explicit knowledge is present at the skills development providers and 54% (n=129) said both tacit knowledge and explicit knowledge are available in the SDPs. The findings present that the majority of the employees (54%; n=129) within the SDPs are familiar with both tacit and explicit knowledge. Since the SDPs are involved in training and development programmes, it is essential to have both tacit and explicit types of knowledge. Within the context of the skills development providers, tacit knowledge comes in the form of the presentation of training programmes by facilitators, whereas the explicit knowledge is available from instructional manuals. Tacit knowledge is developed as individual experiences in the minds of humans and is often articulated by means of face-to-face communication with other people within an enterprise (Mohajan, 2016). According to Abbas and Sağsan (2019:612), however, explicit knowledge is provided in the form of written sources, which include instruction manuals, textbooks and reports. In support of the findings, it is critical to note that individuals have significantly various types of tacit and explicit knowledge and use that knowledge differently (Smith, 2001).

## 5.8. DESCRIPTIVE STATISTICS

The sections that follow provide diagrammatic representations of how participants responded to the individual questions. These questions were on knowledge management processes, knowledge management leadership, knowledge management culture, knowledge management technology, knowledge management measurement, drivers of knowledge management, system tools that facilitate knowledge management, specification of knowledge management, knowledge management barriers and challenges, and lastly, critical success factors of KM systems. The summary of the results per measurement instrument are described as follows:

### 5.8.1. Knowledge management processes (creation, capturing, storing, sharing), and effective use in the SDPs

**Figure 5.7: Responses on knowledge management processes within the SDPs**



*KMP1: Knowledge management as a practice is given attention or spoken about in the organisation*

*KMP2: There is a practice of knowledge management in the organisation*

*KMP3: I contribute to the creation of knowledge in the organisation*

*KMP4: The organisation has a means of capturing experts' (professional) knowledge while in the organisation*

*KMP5: There are systems in place that capture expertise knowledge when exiting from the organisation*

*KMP6: There are means to capture informal knowledge (outside training/meetings) from staff of the organisation*

*KMP7: The organisation has an institutional repository (knowledge storage system) in place to facilitate the capturing and storage of knowledge in the organisation.*

*KMP8: Knowledge created in the organisation is captured and stored in a repository or an easy to find location*

*KMP9: There is easy access to knowledge created in the organisation*

*KMP10: Sharing of knowledge across departments is easy*

Individual responses to knowledge management process items are shown in Figure 5.7. Most respondents agreed with the questions, according to the findings. The highest percentage of respondents agreed (42.2%) that knowledge created within the organisation is easily accessible (KMP9). Overall, most participants concurred with the items that measure the knowledge management processes.

### Summary of results on knowledge management processes

**Figure 5.8: Summary of knowledge management process responses**

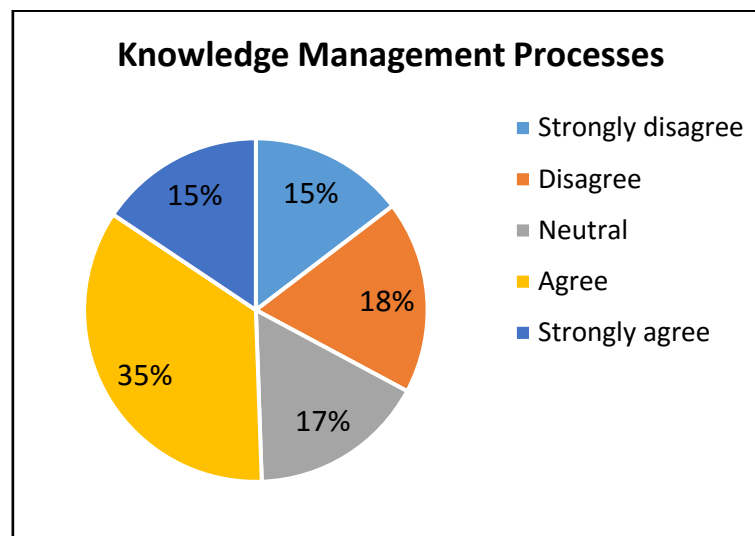


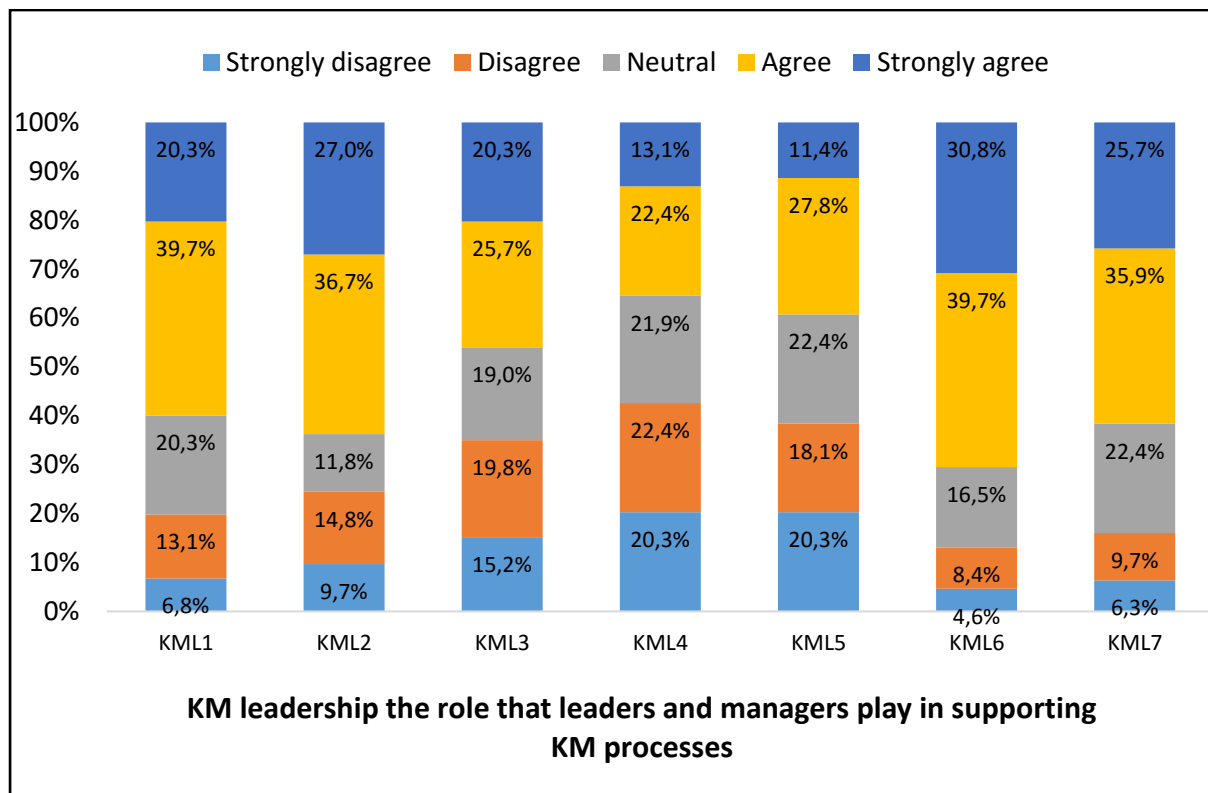
Figure 5.8 presents that the overall majority (50%) of the respondents *agreed*, meaning 35% *agreed* and 15% *strongly agreed* that knowledge management processes (creation, capturing, storing, and sharing) are practised within the skills development providers. However, 33% of the respondents indicated that they *disagree*, 18% *disagreed* and 15% *strongly disagreed* that knowledge management processes are practised at their organisations. In addition, 17% of the respondents were not certain regarding the practice of KM processes.

In the findings of the results on knowledge management processes, it has been discovered that KM processes are prevalent within the SDPs. Irrespective of the lack of formalised structure or approach for KM processes at the skills development providers, it is worth noting that KM processes are practised. In support of the above assertion, knowledge management processes are essential for organisations striving to remain competitive in the contemporary knowledge-based economy (Zaim, Muhammed & Tarim, 2019). Additionally, the acknowledgment of knowledge as a crucial asset for organisations within the contemporary business landscape affirms the necessity for knowledge management processes that enable the creation,

distribution, and implementation of both individual and collective knowledge (Martelo-Landroguez & Cepeda-Carrión, 2016). Employees must understand the value of KM processes to contribute to the creation of new knowledge, including how it is acquired and stored for future purposes. This knowledge must also be shared with everyone to facilitate the successful implementation. As a result, KM processes are a critical component for skills development providers in the facilitation of the implementation of KM.

### 5.8.2. Knowledge management leadership the role that leaders and managers play in supporting KM process in the SDPs

**Figure 5.9: Responses on knowledge management leadership within the SDPs**



*KML1: The power of intellectual capacity is recognised and valued*

*KML2: We are motivated to create and share knowledge*

*KML3: We are evaluated for knowledge generation and sharing*

*KML4: There is a clear articulated KM vision in the organisation*

*KML5: The organisation has enthusiastic knowledge champions (staff who push for knowledge creation and sharing)*

*KML6: Management promotes good teamwork with staff drawn from various disciplines*

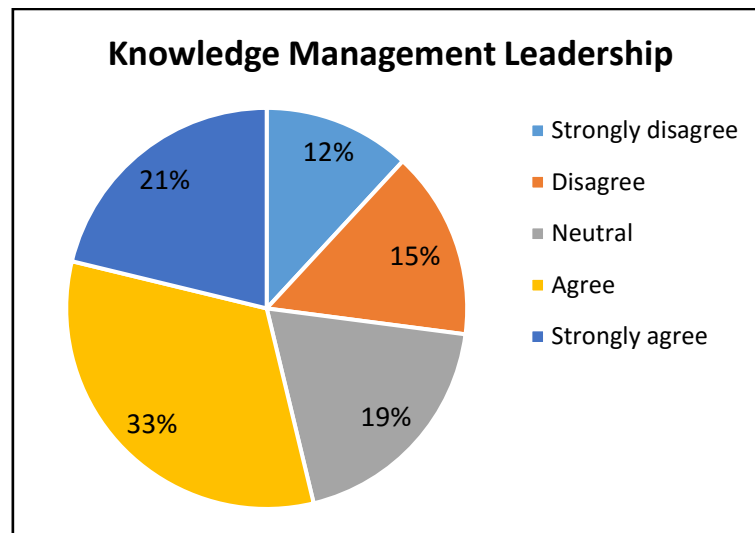
*KML7: Management have a culture of openness and transparency with staff to stimulate innovation and learning*

Individual responses to *knowledge management leadership* questions are presented in Figure 5.9. According to the results, nearly half of respondents agreed with every item (KML1, KML2, KML3, KML4, KML5, KML6, and KML7). Most noticeably, less than 4.6% (KML6) strongly

disagreed that management promotes effective teamwork with staff drawn from various disciplines, while 39.7% agreed with the statement.

### Summary of results on knowledge management leadership

Figure 5.10: Summary of knowledge management leadership responses



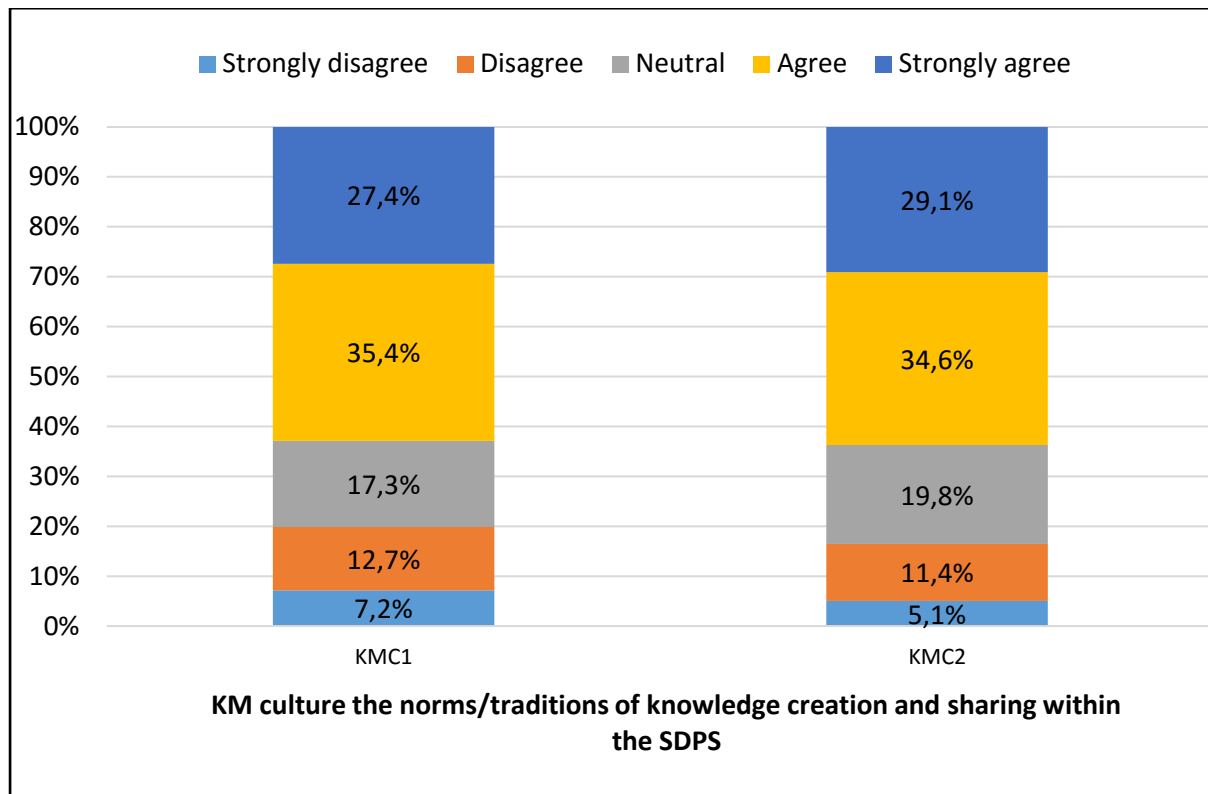
In Figure 5.10 it presented that the overall majority (54%) of the respondents *agreed*, meaning 33% *agreed* and 21% *strongly agreed* that knowledge management leadership does exist within the skills development providers. However, 27% of the respondents indicated that they *disagree*; 15% *disagreed* and 12% *strongly disagreed* that knowledge management processes are practised at their organisations. Furthermore, 19% were undecided regarding knowledge management leadership. The above implies that there is a recognisable knowledge management leadership in the skills development providers. The employees do value and acknowledge the capacity of management regarding knowledge management leadership.

The results are supported by Pellegrini, Ciampi, Marzi and Orlando (2020), who stated that leadership plays a pivotal role in knowledge management implementation. As per Donate and de Pablo (2015), generally, knowledge management practices pose challenges for managers. The efficacy and achievement of these practises are contingent upon good leadership, which plays a crucial role in adapting them to organisational elements in the most optimum manner. Al Amiri, Rahima and Ahmed (2020), in their study on leadership styles and organisational knowledge management activities, stated that the significance of leadership in relation to knowledge management and its potential influence on organisational success has been well

acknowledged. Therefore, SDPs' management should be aware of the different leadership approaches to instil in their effort to facilitate KM implementation.

### 5.8.3. KM culture the norms/traditions of knowledge creation and sharing within the SDPs

**Figure 5.11: Responses on knowledge management KM culture**



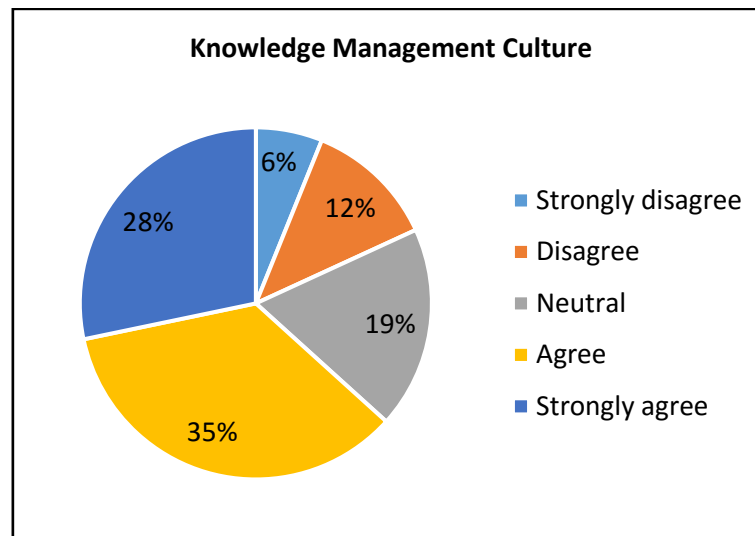
*KMC1: We generally trust each other to share knowledge within the organisation.*

*KMC2: There is a willingness to collaborate and share knowledge across the organisation.*

The results indicate that most respondents *agreed* with the statement. It can be noticed that 35.4% *agreed* that they generally trust each other to share knowledge within the organisation (KMC1).

## Summary of results on KM culture

Figure 5.12: Summary of knowledge management culture responses



It is demonstrated in Figure 5.12 that the overall majority (63%) of the respondents *agreed*, meaning 35% *agreed* and 28% *strongly agreed* that knowledge management culture is evident within the skills development providers. On the other hand, 18% of the respondents specified that they *disagree*, 12% *disagreed* and 6% *strongly disagreed* that a knowledge management culture exists at their organisations. Additionally, 19% were undecided regarding a knowledge management culture.

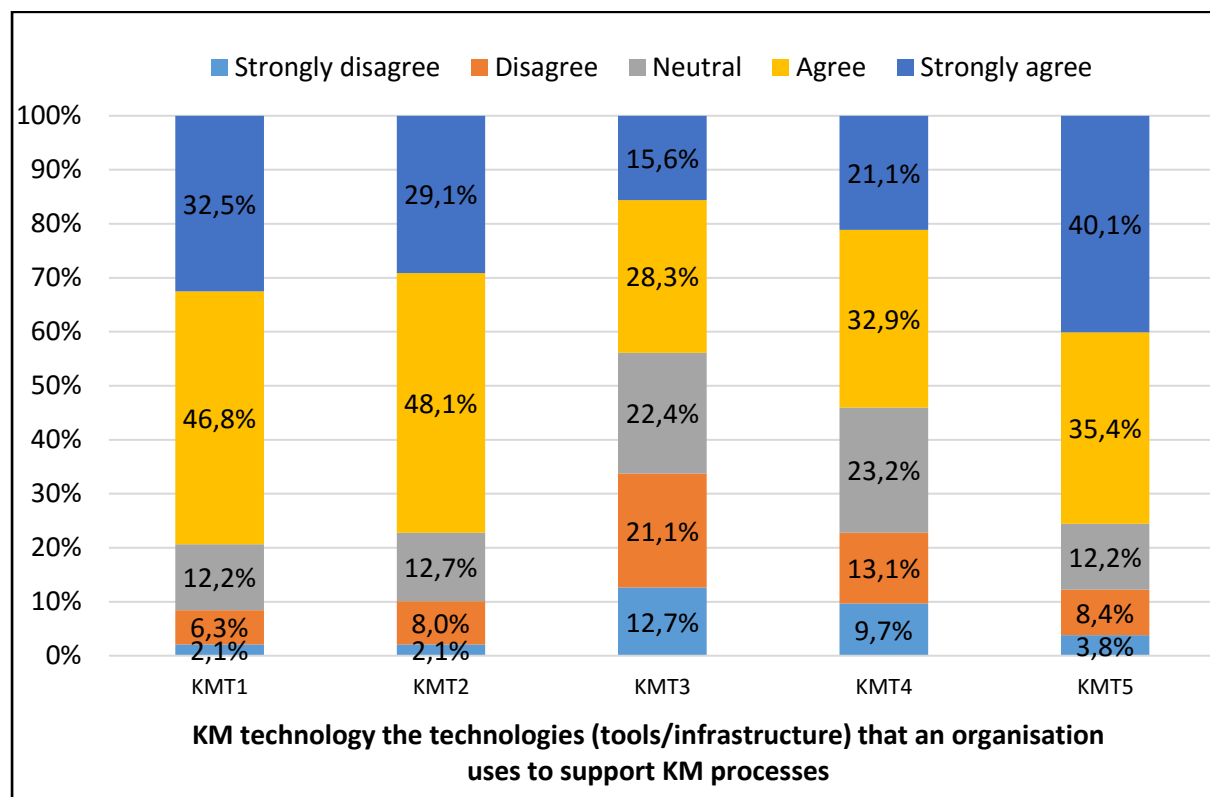
The above analysis highlights the extent to which KM culture is practised within the SDPs. For sustainable KM in the organisation, it will be critical to encompass KM culture in its norms and standards of operation. This statement is oriented on the culture of knowledge sharing among employees. It is noted that, for the organisation to be effective and efficient in its operations, there should be a culture of knowledge sharing between the workers. The organisational operations are interdependent on each other, which emphasises the critical role of a knowledge management culture. A common approach to KM sharing culture, inclusive of all the employees, is essential for the training providers to compete competitively.

A knowledge management culture has the potential to significantly improve the many dimensions of organisational performance by enabling the organisation to operate with improved intelligence and effectiveness (Ahmady, Nikooravesh & Mehrpour, 2016:388). It is recommended by Dalkir (2017) that knowledge management typically necessitates a cultural shift, perhaps involving a whole overhaul or, at the least, adjustments to the prevailing KM

culture(s). This is done to foster an environment that encourages sharing knowledge and teamwork. In another view, Chang and Lin (2015) posit that challenges encountered in knowledge management among individuals are predominantly associated with the *psychological climate* of the organisation, which is dependent upon the KM culture. Therefore, a knowledge management culture should be established in the organisation to enable a conducive working environment in an effort towards KM implementation.

#### 5.8.4. KM technologies (tools/infrastructure) that the SDPs use to support KM processes

**Figure 5.13: Responses on KM technology**



*KMT1: The organisation has an IT infrastructure to support KM process*

*KMT2: The IT infrastructure supports easy access to knowledge*

*KMT3: The organisation has appropriate technologies such as intranets and portals through which I can upload and share content*

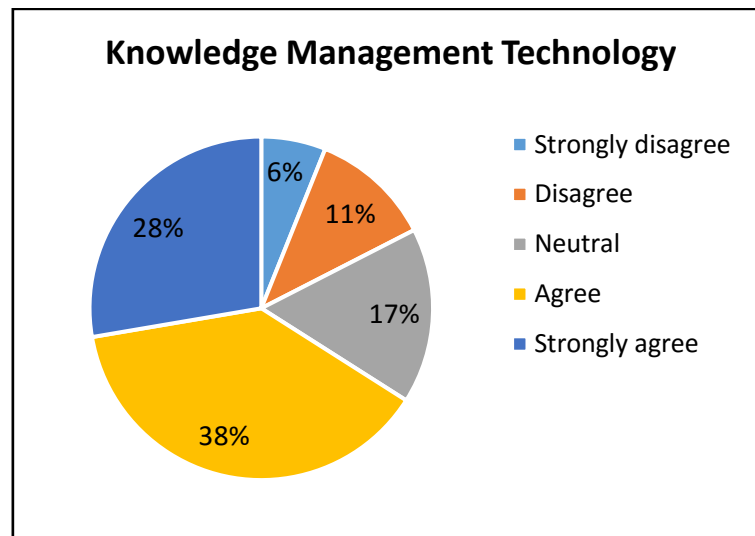
*KMT4: I am able to collaborate with other persons outside the organisation*

*KMT5: The technology makes training, research, and learning in the organisation easy*

Most respondents *agreed* with all four statements (KMT1, KMT2, KMT3, and KMT4). The respective percentages of such agreements are 46.8%, 48.1%, 28.3%, 32.9%, and 35.4%. On KMT5, 40.1% of respondents *strongly agreed* that: “*The technology makes training, research, and learning in the organisation easy*”.

## Summary of results on KM technology

Figure 5.14: Summary of knowledge management technology responses



From the analysis of the data, Figure 5.14 presents that the overall majority (66%) of the respondents *agreed*, meaning 38% *agreed* and 28% *strongly agreed* that knowledge management technology is available within the SDPs. However, 17% of the respondents indicated that they *disagree*, 11% *disagreed* and 6% *strongly disagreed* that knowledge management technology is available at their organisations. Additionally, 17% were undecided regarding knowledge management technology.

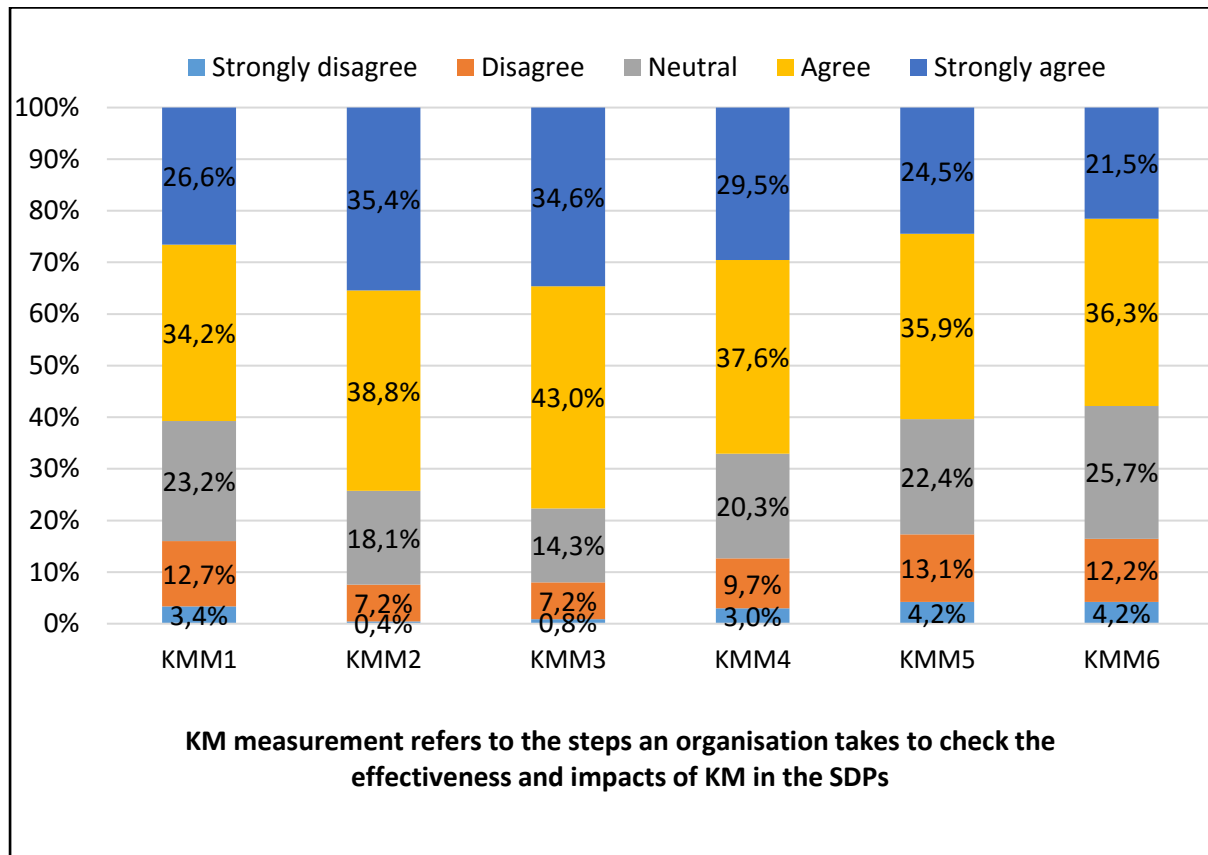
Information and communication technology (ITC) plays a key role in KM within any organisation. With the current pace of the Fourth Industrial Revolution and the evolving needs of the customers, it is compulsory for businesses in the skills development sector to keep abreast with changing technology. Technology facilitates effective and efficient KM implementation.

Within the context of the knowledge and technology-driven digital economy, which is marked by factors involving globalisation and technological and economic integration, proficient organisations employ technology for the purpose of knowledge management (Santoro, Vrontis, Thrassou & Dezi, 2018:348). Within an organisation, there is a repository of knowledge that is generated and preserved by its members. The advent of the latest technology has resulted in a substantial increase in knowledge management (Tiwari, 2022). However, from another view, the role of technology or information and communication technology (ICT) has been significant in determining the outcomes of knowledge management (KM) practices,

particularly in cases where the KM system was not regarded as important, functional, and user-friendly (Razmerita, Phillips-Wren & Jain, 2016). Therefore, modern technology must be in place, user-friendly and consistent in the execution of knowledge management.

### 5.8.5 KM measurement the steps an organisation takes to check the effectiveness and impacts of KM

**Figure 5.15: Responses on KM measurement**



*KMM1: The organisation uses KM to widen the array (line/range) of programmes/courses offered*

*KMM2: The organisation uses knowledge to solve problems*

*KMM3: The organisation uses knowledge to improve efficiency*

*KMM4: The KM practice have a positive impact on training, research, innovation, and learning in the organisation*

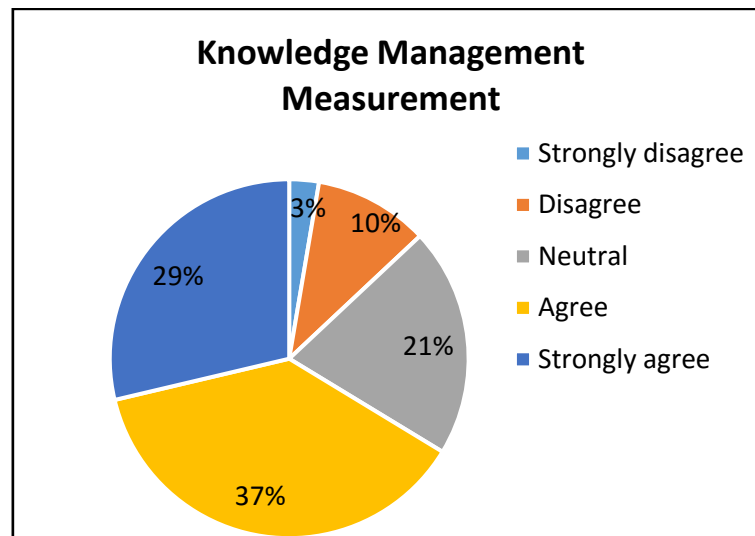
*KMM5: The e-learning system have a positive impact on training, research, innovation, and learning in the organisation*

*KMM6: The Community of Practice system have a positive impact on training, research, innovation, and learning in the organisation*

According to Figure 5.15, a greater proportion of respondents agreed with the statement on knowledge management measurement. The respective percentages of such agreements were 34.2%, 38.8%, 43.0%, 37.6%, 35.9%, and 36.3%. The smallest number for each item represented those who *strongly disagreed* with the statements, while the remainder either *disagreed*, were *neutral*, or *strongly agreed* with the statements.

## Summary of results on KM measurement

Figure 5.16: Summary of knowledge management measurement responses



In Figure 5.16, it is presented that the overall majority (66%) of the respondents *agreed*, meaning 37% *agree* and 29% *strongly agree* that knowledge management measurement is conducted within the skills development providers. However, 13% of the respondents indicated that they *disagree*, 10% *disagreed* and 3% *strongly disagreed* that knowledge management measurement is conducted at their organisations. Additionally, 21% were unclear regarding knowledge management measurement.

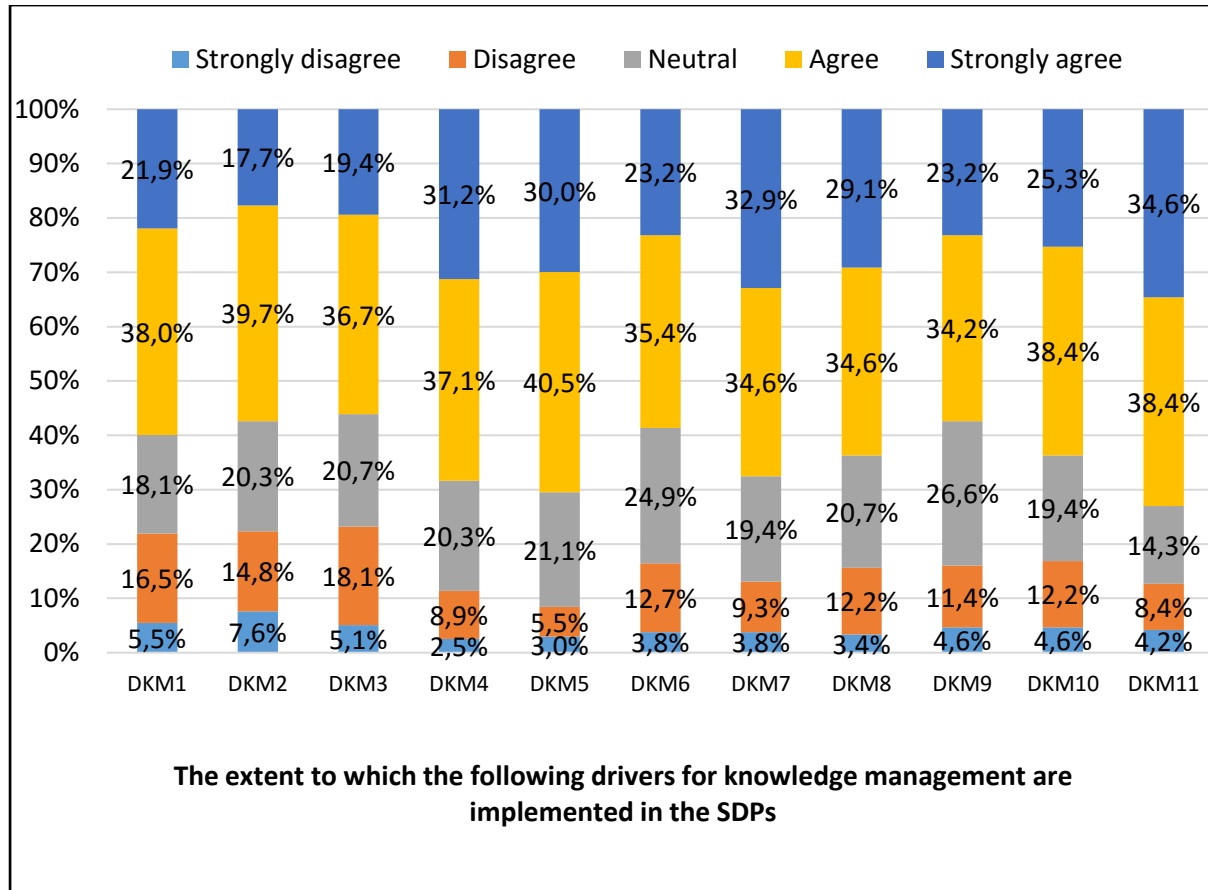
The findings of the results on knowledge management measurement in the SDPs illustrate the concerted efforts by management to evaluate the status of KM. In order to pursue a strategic position, it is vital to determine the current status of the organisation and subsequently these processes subject the enterprise to conduct KM measurement. Organisations make use of KM measurement as a method to assess and enhance their performance in knowledge management. Measurement is a crucial KM stage since it enables managers to make decisions and enhances the KM performance of their organisations (Wong, Tan, Lee & Wong, 2015:255). In support of the above, an efficient KM measurement enables managers to get insights into the shortcomings of current KM practices, identify the crucial factors that influence organisational growth and performance, and offer empirical proof to support continuous improvements (Lyu, Zhou & Zhang, 2016). Moreover, KM measurement is typically considered the foundation of controlling, evaluating and improving KM practices. Other objectives, however, are what motivate KM measurement in organisations. On the side of finances, measuring assists in determining whether the advantages of a KM practice exceed the time and money invested in

it (Chua & Goh, 2008). For that reason, skills development providers must have a KM measurement tool to be able to assess their progress in KM implementation.

Measurement is a data acquisition mechanism that provides valuable insights into a specific context or undertaking. Measurement is a crucial aspect in highlighting the value and significance of a knowledge management programme to both management and stakeholders. This phenomenon may be attributed to the absence of supporting evidence and the lack of commitment from upper-level executives, resulting in a decline in its effectiveness (Sokoh & Okolie, 2021).

### 5.8.6. The extent to which the drivers for knowledge management are implemented in the SDPs

Figure 5.17: Responses on drivers for KM

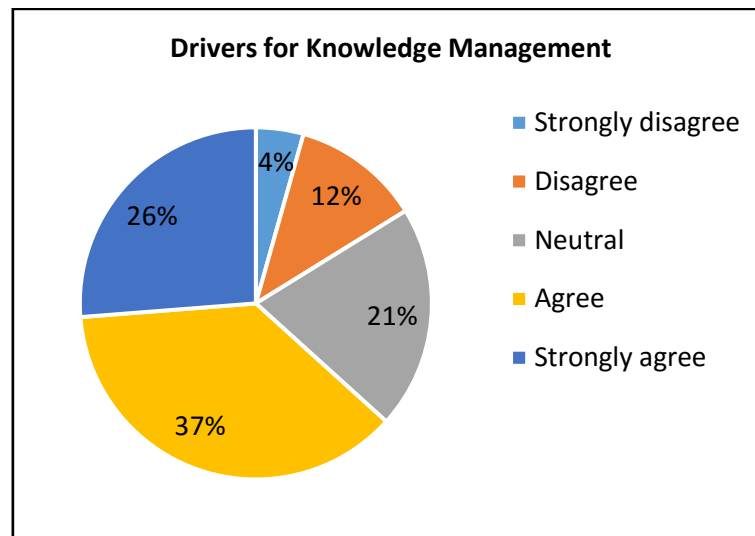


- DKM1: Building up and maintaining employees' expertise and skills
- DKM2: Sharing employees' expertise and perceptions
- DKM3: Identifying internal and or external best practices
- DKM4: Reducing cost and or time to solve problems in projects
- DKM5: Enhancing work quality of projects
- DKM6: Providing competitive advantages of the company
- DKM7: Helping managers to avoid many problems causes
- DKM8: Presenting accurate and timely knowledge to facilitate decision making
- DKM9: Enhancing relation and coordination with customers, partners and suppliers
- DKM10: Encouraging continuous improvement and or new products and services
- DKM11: Reducing rework and save time of solving repeated problems

According to Figure 5.17, the majority of respondents agreed with each driver for knowledge management questions. 40.5% of respondents agree with the statement the most (DKM5). While the lowest number for each item represented those who *strongly disagreed* with the statements, the remaining respondents either *disagreed*, were *neutral*, or *strongly agreed* with the statements.

## Summary of results on drivers for knowledge management

Figure 5.18: Summary for drivers for knowledge management



With the presentation of the results in Figure 5.18, it is presented that the overall majority (63%) of the respondents *agreed*, meaning 37% *agree* and 26% *strongly agree* that the drivers for knowledge management are implemented at their organisations. On the other hand, 16% of the respondents indicated that they *disagree* with the statement, 12% *disagreed* and 4% *strongly disagreed* that the drivers for knowledge management are implemented at their organisations. Furthermore, 21% were undecided on the statement.

The findings of the results on the drivers for knowledge management highlight that initiatives to propel KM are implemented within the SDPs. This emphasises the vested efforts and attention by management and employees on KM practices. The drivers of KM include aspects emanating from the daily, weekly, and monthly routine functions and responsibilities performed by all the staff members inclusive of the management team. Otherwise, lack of attention to routine tasks will hamper the aspects that drive knowledge management.

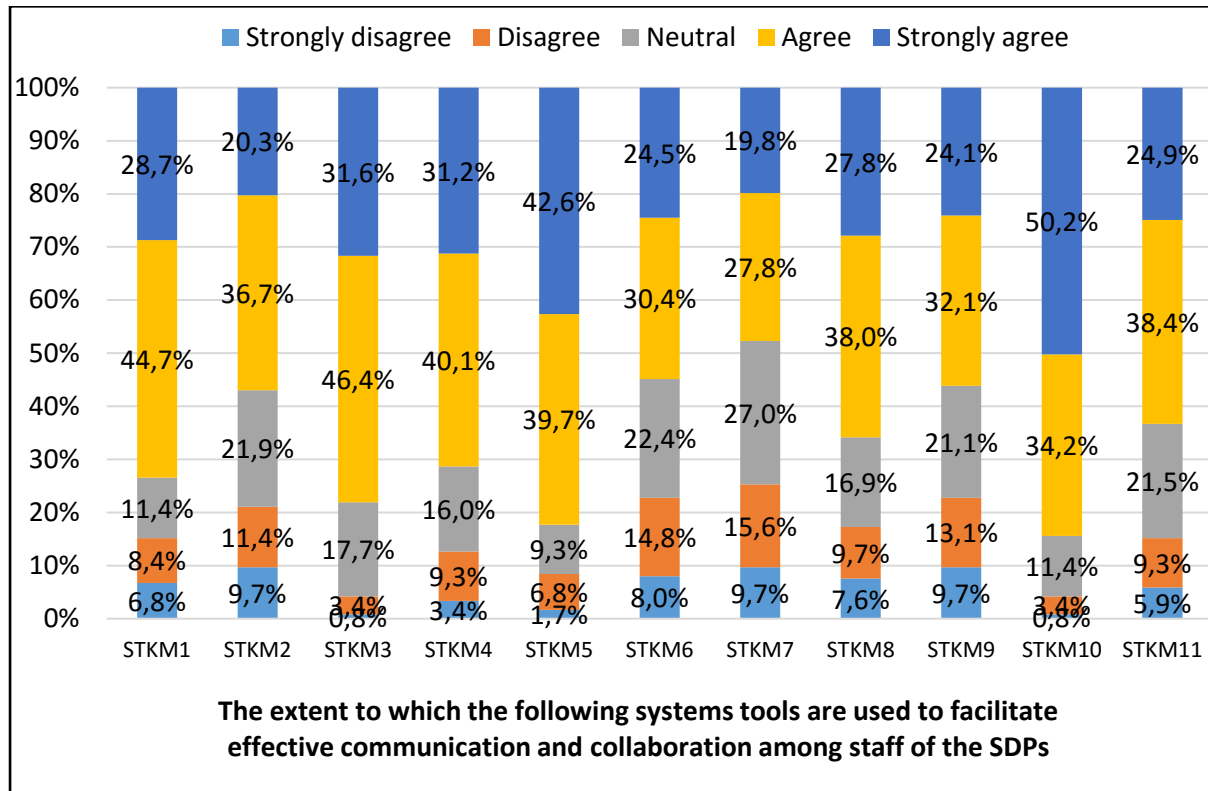
The concept of a knowledge management driver refers to a critical and indispensable element or circumstance that enables an organisation to effectively implement knowledge management practices. This implies that the organisation must allocate attention to both favourable circumstances and pertinent variables to effectively implement knowledge management (Wu, Wu, Li & Huang, 2011). Consistent and dependable drivers of knowledge management play a critical role in facilitating the advancement of knowledge inside businesses, particularly within the context of a knowledge-based economy. To achieve and sustain a competitive advantage,

organisations must integrate appropriate key drivers for KM into their operations to enhance KM resources (Ling, Yih, Eze, Gan & Ling, 2008). Through the drivers for knowledge management, firms are anticipated to acquire the capacity to effectively manage their knowledge resources and, eventually, attain their strategic objectives (Yu, Kim & Kim, 2004). Therefore, SDPs should be conversant with the drivers of KM in their organisations and be in a position to promote and maintain their execution towards KM implementation.

The drivers of knowledge management arise from acknowledging the inherent worth of knowledge within a commercial context. These drivers include the failure of companies to effectively utilise their existing knowledge, the necessity of enhancing employee productivity through better knowledge dissemination, the challenges of dealing with constraints to knowledge circulation and preservation, the importance of unlearning outdated information, and the prevalent culture of knowledge hoarding within most companies (Tiwana, 2000).

**5.8.7. The extent to which the following systems tools are used to facilitate effective communication and collaboration among staff of the SDPs**

**Figure 5.19: Systems tools are used to facilitate effective communication and collaboration among staff**

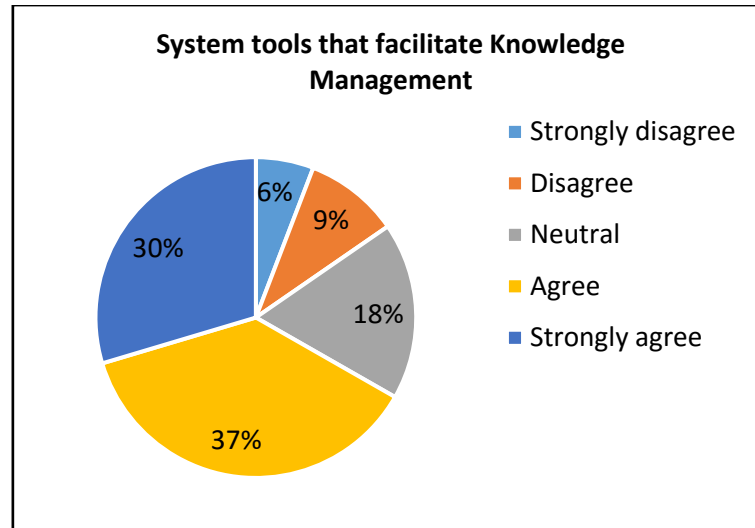


- STKM1: User manuals
- STKM2: Data mining, Analysis and Reporting
- STKM3: Documents Management
- STKM4: Photos and or Videos Management
- STKM5: Training and Support (Online learning)
- STKM6: Knowledge searching
- STKM7: Knowledge map
- STKM8: Telephone directory or Contact list
- STKM9: Subscriptions
- STKM10: Online Meeting, Messaging and Boardroom discussions
- STKM11: Decision support systems

The majority of respondents *agreed* with all five statements (STKM1, STKM2, STKM3, and STKM5). The respective percentages of such items are 44.7%, 36.7%, 46.4%, 40.1%, 30.4%, 27.8%, 38.0%, 32.1%, and 38.4%. On STKM5, *Training and support (online learning)* and STKM10, *Online meeting, messaging and boardroom discussions*, 42.6% and 50.2%, respectively, of the participants were fully in agreement with each statement regarding system tools that facilitate knowledge management.

## Summary of results on systems tools are used to facilitate effective communication and collaboration among staff of the SDPs

Figure 5.20: Summary of systems tools



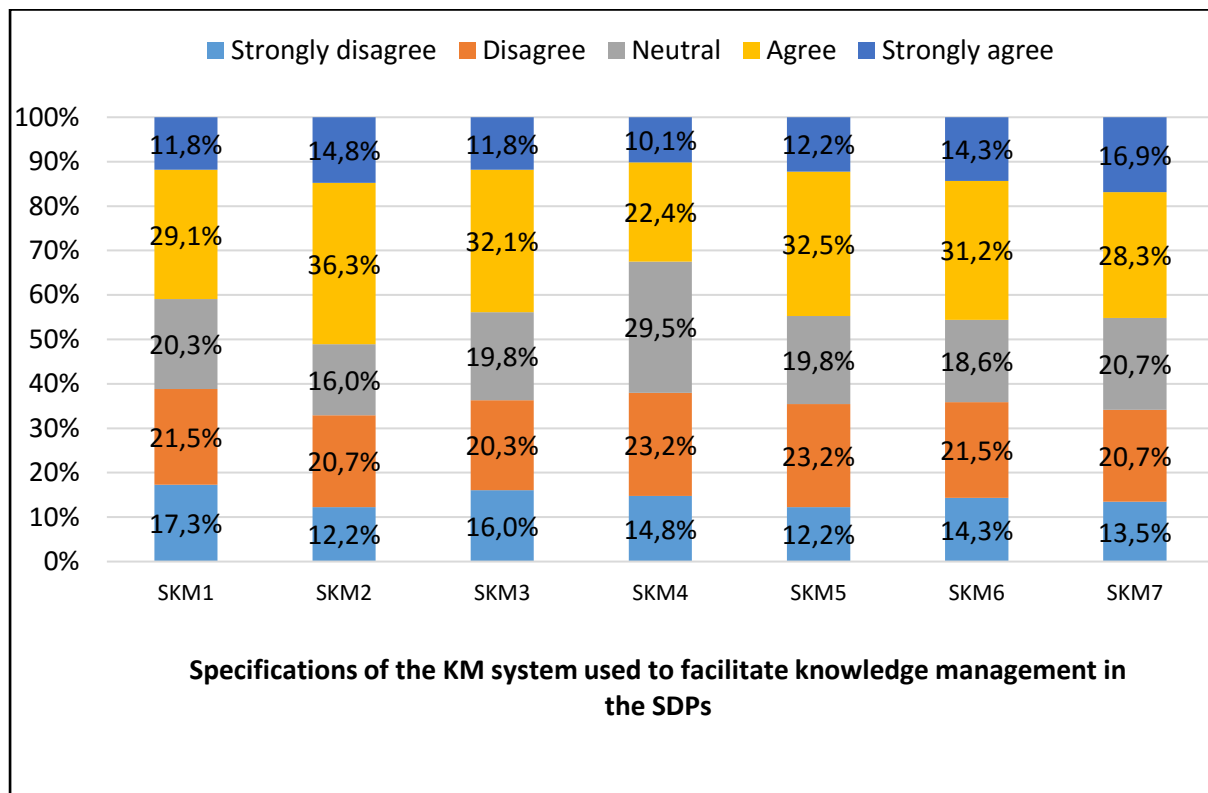
In Figure 5.20, it is presented that the overall majority (67%) of the respondents *agreed*, meaning 37% *agreed* and 30% *strongly agreed* that the system tools that facilitate knowledge management are used within the skills development providers. However, 15% of the respondents indicated that they *disagree*, 9% *disagreed* and 6% *strongly disagreed* that the system tools that facilitate knowledge management exist at their organisations. Also, 18% were uncertain regarding the system tools that facilitate knowledge management.

The employees of the SDPs acknowledged the crucial role played by the system tools to facilitate KM. Below, in Figure 5.19, system tools are listed, and from the list it can be emphasised that the tools are commonly known and utilised by employees at regular bases whether in personal or work-related encounters. These tools contribute immensely in the creation, acquisition, storing, sharing and application of knowledge in the organisation. Therefore, knowledge management system tools are regarded as methods and techniques that organise and categorise information logically, systematically gather and organise information, and standardise all the accumulated information. Ultimately, these tools facilitate the efficient creation, acquisition, storage, sharing and application of knowledge (Wu, Wu, Li & Huang, 2011). Several system tools have been developed and used to facilitate the deployment of knowledge management in businesses. System tools that enable knowledge management can be categorised based on their strategic approach, operational processes, and technological capabilities. The technologies that can execute the work encompass the internet, IT

infrastructure, data mining, cloud computing, artificial intelligence, the internet of things, and machine learning. The tools in question have seen significant improvements in their characteristics and capabilities due to technology developments (Osman, Noah & Saad, 2022). Contrarily, Reddy, Reddy and Jonnalagadda (2022) assert that the improper use of system tools that facilitate knowledge management can lead to a decline in employee performance, innovation, quality of service, user satisfaction, and other related factors. It is critical for the SDPs to have various system tools to facilitate KM implementation, and such tools must be maintained regularly.

### 5.8.8. Specifications of the KM system used to facilitate knowledge management in the SDPs

**Figure 5.21: Responses on specifications of the KM system**

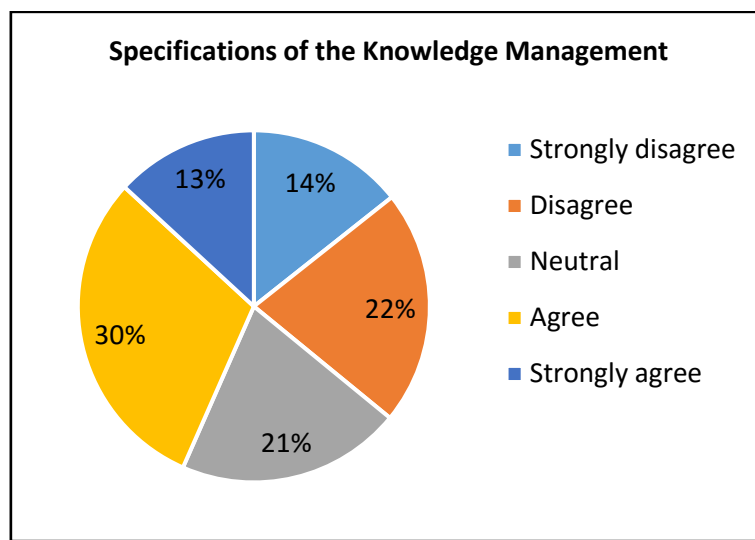


- SKM1: The knowledge system is easy to use
- SKM2: It is easy for users to find useful information for problem solving
- SKM3: The system collects knowledge that is important for the organisation
- SKM4: The system ignores knowledge that is not important for the organisation
- SKM5: The system facilitates knowledge sharing between organisation's employees
- SKM6: The system maintains good relationships with customers and other partners
- SKM7: The role of knowledge team and knowledge workers is very important

Individual responses to *specification of knowledge management* questions are presented in Figure 5.21. According to the findings, nearly half of the respondents agreed with every query (SKM1, SKM2, SKM3, SKM5, SKM6, and SKM7). Notably, less than 10.1% (SKM4) *strongly disagreed* that the system ignores knowledge that is not important for the organisation, while 29.5% were neutral regarding the statement.

**Summary of the results on the specifications of the KM system used to facilitate knowledge management in the SDPs**

**Figure 5.22: Specifications of the KM system**



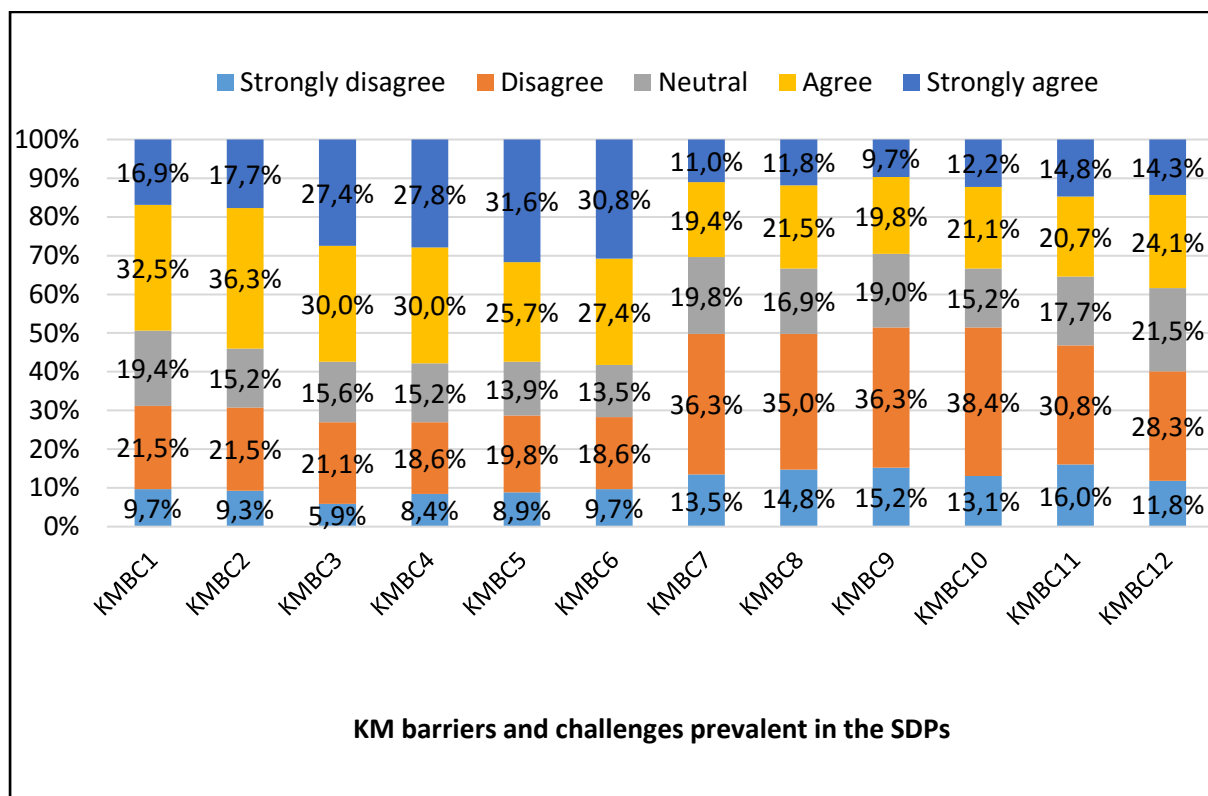
In Figure 5.22, it is presented that the overall majority (43%) of the respondents *agreed*, meaning 30% *agree* and 13% *strongly agree* regarding the specifications of the KM system used to facilitate knowledge management at the skills development providers. However, 36% of the respondents indicated that they *disagree*, 22% *disagreed* and 14% *strongly disagreed* regarding the specifications of the KM system used to facilitate knowledge management at their organisations. Besides, 21% were unclear regarding the specifications of the KM system used to facilitate knowledge management.

The findings of the results on specifications of knowledge management systems (KMS) allude to the extent to which KMSs are used to facilitate KM implementation in the SDPs. This statement portrays how the employees are content with the existing KMS at their organisations. It simply means that they can practise knowledge management effectively and efficiently with the available systems. With the availability of a proper KM system, employees can access information, gather relevant knowledge, and facilitate sharing between an organisation's

employees. As per Hebibi, Raimi and Milićević (2019), organisations that deploy knowledge management systems may anticipate their workers' ability to produce creative and innovative problem-solving solutions and contribute to developing further innovative processes within the organisation. Knowledge management systems have the potential to enhance the efficacy of brainstorming sessions, thereby facilitating the innovation process inside a business. The specifications of knowledge management uphold the conventional belief in rational thinking and the utilisation of a knowledge management system to assist in the execution of knowledge management. The assertion is made that knowledge management implementation necessitates the adoption of novel perspectives and approaches (Sokoh & Okolie, 2021). Accordingly, the specifications of the KM system should be known by all the employees within the SDPs, to be able to facilitate KM implementation.

### 5.8.9. Knowledge management barriers and challenges prevalent in the SDPs

**Figure 5.23: Responses on knowledge management barriers and challenges**



*KMBC1: The nature of skills development projects (e.g. non-repetitive work, no standard procedure for activities, pressure to complete on schedule, changing employees in different phases, etc.)*

*KMBC2: Lack of organisational culture for knowledge creation and sharing (e.g. building trust among employees, establishing times and places for knowledge transfer, provide incentives, accept and reward creative errors, etc.)*

*KMBC3: Lack of structured procedures and processes to implement KM*

*KMBC4: Lack of the adoption of well formulated KM strategies and implementation frameworks*

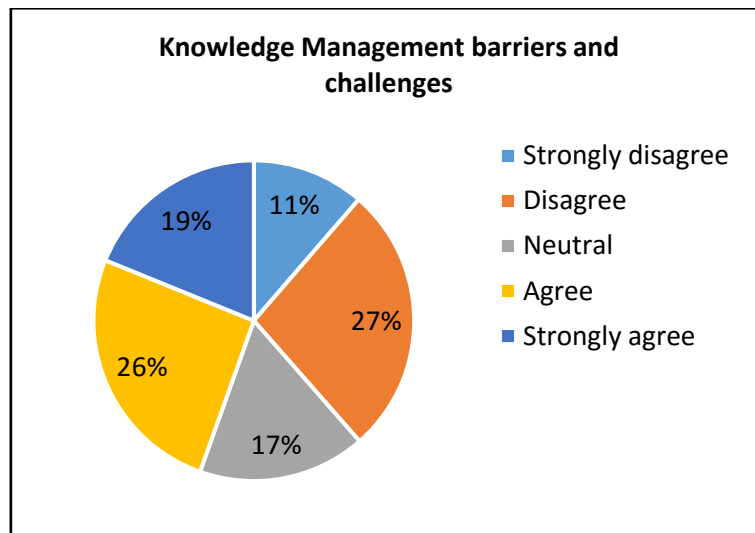
*KMBC5: Lack of knowledge manager or a team to implement strategy*

- KMBC6: Lack of awareness of the importance of KM in skills development providers
- KMBC7: Lack of training and support
- KMBC8: Lack of technology and techniques for knowledge capture and sharing
- KMBC9: Lack of leadership support
- KMBC10: Lack of resources in terms of a budget, staff, and IT infrastructure
- KMBC11: Employee resistance to share their knowledge
- KMBC12: Lack of post-project reviews and project documentation

Figure 5.23 shown above presents individual responses for *knowledge management barriers and challenges* questions. According to the findings, nearly half of the respondents agreed with each question (KMBC1, KMBC2, KMBC3, KMBC4, KMBC5, and KMBC6). Less than 9.7% (KMBC9) strongly concurred that leadership support is lacking in the organisation, while 36.3% agreed with the statement.

**Summary of the results on the KM barriers and challenges prevalent in the SDPs**

**Figure 5.24: Knowledge management barriers and challenges**



In Figure 5.24, it is presented that the overall majority (45%) of the respondents *agreed*, meaning 26% *agree* and 19% *strongly agree* regarding the knowledge management barriers and challenges prevalent within skills development providers. In opposing view, 38% of the respondents indicated that they are in disagreement; 27% *disagreed* and 11% *strongly disagreed* regarding the prevalence of knowledge management barriers and challenges at their organisations. Furthermore, 17% were neutral regarding knowledge management barriers and challenges.

The results demonstrate that the employees of the SDPs were able to identify the KM barriers and challenges prevalent in the organisation. It is very important for employees to be conscious

of the factors that hamper their productivity and organisational success. Most of the organisations operate on strict budget allocations, whereas others struggle with the provision of resources. In such instances, it compels the employees to sacrifice, compromise and improvise on the organisational resources to keep the basic operations on-going. To support the findings, a study conducted by Sharma and Singh (2015) has also identified several barriers and challenges related to knowledge management within organisational contexts. These include a lack of involvement from the management team, an unsupportive organisational structure, little understanding of technology, a failure to learn from previous mistakes, a lack of trust among staff members, inadequate training programmes, restrictions on the distribution of knowledge, an unsupportive organisational culture, and a scarcity of resources in terms of finance, IT infrastructure, and human resources. Bartczak (2012) conducted a study to determine the existence of knowledge management barriers. The study highlighted several difficulties encountered in knowledge management implementation, such as the need for leadership training and dedication and the scarcity of resources. In their study, Abdolshaha and Abdolshahb (2011) researched knowledge management barriers. They study assert that a lack of awareness among management teams regarding knowledge management principles, the absence of a dedicated knowledge management champion, and inadequate information exchange among employees can impede knowledge management implementation within an organisation. Therefore, the existence of KM barriers and challenges should be evident to the management and employees within the SDPs. Additionally, measures should be put in place on how to circumvent such obstacles towards KM implementation.

#### **5.8.10. Critical Success Factors of KM systems**

Table 5.11 presents the critical success factors of KM systems, the most contributing factor(s) to the effectiveness of KM process in the skills development providers.

**Table 5.11: Critical success factors of KM systems**

	Frequency	Percentage
Leadership	191	80.6%
Culture	116	48.9%
Technology	179	75.5%
Strategies	101	42.6%
Leadership & culture	101	42.6%
Leadership, culture & technology	100	42.2%
Leadership, culture, technology & strategies	66	27.8%
Culture & technology	100	42.2%
Culture, technology & strategies	64	27.0%
Technology & strategies	84	35.4%

Table 5.11 indicates that 80.6% of the respondents chose leadership as the critical contributing factor to the effectiveness of knowledge management processes in the organisation, while 75.5% of the total respondents identified technology as the most important critical factor influencing the effectiveness of knowledge management processes in an organisation. Notably, 48.9% and 42.6% selected culture and strategies, respectively, as the critical contributing factors to the effectiveness of knowledge management processes in the organisation. However, it is worth noting that of these total respondents, 42.6% believe that both leadership and culture while 42.2% and 35.4% identified both culture and technology, as well as technology and strategies, respectively, as the critical contributing factors to the effectiveness of knowledge management processes in the organisation. Moreover, 42.2% of the respondents believe that leadership, culture and technology have a combined contributing influence, while 27% of the respondents think that culture, technology and strategies all together also have a critical contributing influence on the effectiveness of knowledge management processes in the organisation. Finally, 27.8% of the respondents are of the opinion that leadership, culture, technology, and strategies all together are critical factors that contribute to the effectiveness of knowledge management processes in the organisation.

In this last section of the questionnaire, respondents were required to identify the critical success factor(s) that contribute to the effectiveness of KM processes in the organisation. From the findings, it has been discovered that leadership was the highest chosen factor. This means

that the employees of the skills development providers recognise leadership as essential in facilitating KM processes. Without proper leadership from management, the KM initiatives will deter. Technology was selected as the second factor to contribute to the effectiveness of KM processes. With the ever-changing digital era, the employees noted that technology is vital in facilitating and advancing KM processes. This assertion subjects the SDPs to maintain and upgrade technology infrastructure to be effective and exceed customer expectations in the knowledge economy. This was followed by culture, which was identified as the third factor. Shared values, beliefs and principles on KM process were also highlighted by employees as beneficial. When employees have a common understanding on the required standard(s) for KM processes, it becomes effective for the creation, acquisition, storing, sharing and application of KM in the organisation. Strategy was recognised as the fourth factor to contribute to the effectiveness of KM processes. This factor was identified as the last critical component preceding leadership, technology, and culture. The SDPs' employees considered that, after the adoption of the first three critical success factors, a strategy must be in place to contribute to the effectiveness of KM process in the organisation.

The study undertaken by Reddy, Reddy and Jonnalagadda (2022) yielded data that identified and verified leadership, culture, technology, and strategies as significant critical success factors (CSFs) in the effectiveness of KM processes in the organisation. According to the research conducted by Yeh, Lai and Ho in 2006, there are four primary critical success factors that facilitate knowledge management. These factors are the presence of an efficient information technology infrastructure, a motivated workforce, a positive corporate culture and strategic approach, and effective leadership. Therefore, the adoption of identified CSFs must be incorporated in the efforts concerning KM implementation within the SDPs.

## **5.9. SUMMARY OF THE QUANTITATIVE RESULTS OF THE STUDY**

The findings of quantitative data analysis, in an effort to address the research objective, emphasise the importance of all KM variables to be considered in the development of a framework for knowledge management implementation within skills development providers in the North West Province of South Africa. The following factors were identified: KM process creation, capturing, storing, sharing, and effective use of knowledge in the organisation by the majority (50%) of the respondents, and the KM leadership with the majority of 53%. Moreover, 68% of the respondents *agreed* that a KM culture does exist, followed by the majority (66%) of respondents who identified the availability of KM technology in the SDPs. On the drivers

of KM, the majority (63%) of the respondents agreed, followed by 67% who were also in agreement regarding the system tools that facilitate KM. The majority (43%) of the respondents agreed on the specifications of the KM, followed by 45% of the respondents who agreed with the KM barriers and challenges. Lastly, the following critical success factors were identified as the contributing elements in the following order of priority by the respondents 80.6% chose leadership, followed by 75.5% who selected technology, culture accumulated 48.9% and 42.6% indicated strategy. All the items were supported by most of the respondents. As a result, it will be crucial to incorporate the identified items in the proposed framework for the implementation of knowledge management within the SDPs.

## **5.10. CHAPTER SUMMARY**

The quantitative data analysis and interpretation of the results, from the questionnaires completed by the employees of the skills development providers in the North West Province of South Africa, were discussed in this chapter. The measurement items in the questionnaire were focused on conducting the knowledge management assessment in the SDPs. The measurement items were included with the aim of addressing the research objective of the study.

The first section of this chapter presented the demographic information of the respondents. The analysis of the demographic responses was illustrated with the use of tables, pie and column charts aimed at providing the clear understanding of the demographics within SDPs providers. Secondly, the descriptive statistics on the KM assessment within the SDPs were presented in nine sections of the questionnaire. Data collected was captured in MS Excel and imported into the SPSS software for further analysis. Additionally, the reliability and validity of the measurement instrument were demonstrated. In the next chapter, qualitative data analysis and interpretation of the results will be discussed. The discussion of qualitative findings will be presented with the aim of supporting the quantitative findings.

## **CHAPTER 6**

### **QUALITATIVE DATA ANALYSIS AND INTERPRETATION OF THE RESULTS**

#### **6.1. CHAPTER OVERVIEW**

The preceding section outlined the analysis and interpretation of quantitative data. In Chapter 5, the initial approach to addressing the research questions in this study involved the use of quantitative data analysis, specifically the convergent parallel mixed method. This chapter shifts focus to the second method of the convergent parallel mixed method, elucidating the analysis and interpretation of qualitative data results. The qualitative insights emanate from in-depth interviews with owners or managers of skills development providers. The categorisation of data into thematic clusters was accomplished using Atlas.ti software. It's noteworthy that each interview transcript was assigned an identifier, labelled as SDP with a corresponding number (e.g., SDP1, SDP2) to safeguard participant identities. Additionally, certain qualitative findings were reinforced by insights gathered from the literature review.

#### **6.2. QUALITATIVE DATA ANALYSIS**

In this study, 18 interviews were held purposively with the owners or managers of the skills development providers within the North West Province of South Africa. Before initiating each interview, the researcher took measures to guarantee the appropriateness of the surroundings and provided a comprehensive explanation of the interview's objective to the participants. To ensure the preservation of anonymity, the researchers refrained from documenting the participants' names or any other personal information. Additionally, the interview questions were presented sequentially, following a chronological order. Furthermore, no individuals were explicitly mentioned or attributed in conjunction with their respective comments; instead, just their thoughts and viewpoints were recorded.

The interview data underwent a thorough analysis by means of Atlas.ti, yielding pivotal thematic insights that inform the study discussions. The analysis did not necessarily follow the objectives of the study to allow the data to speak for itself. In the write up, the structuring was crafted to maintain both the conversational flow of the interviews and the logical sequence of themes established from the interviews. The process of analysing qualitative data involved the transformation of interview responses from audio recordings into electronic written content, resulting in the creation of a summarised transcript for each interview. The researcher meticulously scrutinised the completed transcripts to gain a thorough comprehension of the

gathered data, evaluate its overall reliability, and construct a comprehensive overview of the participants' perspectives (Linneberg & Korsgaard, 2019). The data analysis approach employed for evaluating the information gathered from the interviews was the thematic method (Ningi, 2022). The researcher systematically coded the interview material and then organised these codes into categories. Subsequently, the researcher further refined and expanded upon these categories to form general themes. The researcher made use of extensive incorporation of direct quotations from the respondents to faithfully convey their perspectives and opinions, preserving the nuances of their expressions. In instances where participants shared similar experiences or viewpoints, the data was amalgamated, with a select few testimonials chosen to represent the prevailing consensus.

### **6.3. THE ATTRIBUTES OF INTERVIEWS PARTICIPANTS**

In this section of qualitative data analysis, Table 6.1 displays the attributes of every participant involved. The participants' attributes were based on the age, position held in the organisation, highest qualification, and the number of working experiences within the skills sector.

**Table 6.1: Characteristics of interview participants**

Age	Position	Qualification	Working experience					
			Less than a year	1-2 years	2-3 years	3-4 years	5-10 years	More than 10 years
21-30 years	Manager	Bachelor's			1			
31-40 years	Manager	Bachelor's					1	
	Manager	Diploma					1	
	Owner	Bachelor's				1		
41-50 years	Manager	Bachelor's						1
	Manager	Honours					1	
	Manager	Bachelor's						1
	Owner	Higher certificate					1	
	Owner	Bachelors					1	
	Owner	Bachelors						1
	Owner	Bachelors					1	
51 years and over	Manager	Diploma				1		
	Owner	Master's						1
	Owner	Bachelor's					1	
	Owner	Diploma					1	
	Manager	Master's						1
	Owner	Diploma						1
TOTAL	Managers	8						
	Owners	10						

In Table 6.1, it is presented that from the 18 participants of the interviews, 10 were the owners and eight were employed as managers of the SDPs. This means that the researcher had an opportunity to interview the actual people who established the skills development organisations. The pivotal role of the owners or managers in knowledge management implementation cannot be overstated; their profound contributions involve orchestrating strategic initiatives, fostering a culture of continuous learning, and adeptly leveraging organisational resources, thereby enriching the collective expertise and ensuring a seamless integration of knowledge management practices within the institution. Most of the participants

belonged to the age group of 41 to 50 years. Owners or Managers aged 41-50 significantly contribute to the successful implementation of knowledge management in organisations by leveraging their extensive professional experience and sensible understanding of industry dynamics, thereby fostering a culture of effective knowledge sharing and strategic information utilisation within the workplace. In terms of the level of education, most of the participants are in possession of a bachelor's degree. The successful implementation of knowledge management in an organisation is involvedly linked to the level of education within the workforce, as a well-educated and informed staff is better equipped to comprehend, adopt, and contribute to the effective utilisation of knowledge management practices. Regarding working experience, most of the participants have between 5 and 10 years of experience within the skills sector. Managers with 5 to 10 years of experience exhibit an extensive understanding of knowledge management implementation within organisations, showcasing a wealth of practical insights and strategic acumen honed through years of navigating the dynamic landscape of information dissemination, collaborative learning, and organisational innovation. Their seasoned perspectives enable them to adeptly address challenges, optimise knowledge-sharing processes, and foster a culture of continuous improvement, thereby contributing significantly to the effective implementation and sustainability of knowledge management initiatives in the ever-evolving organisational context.

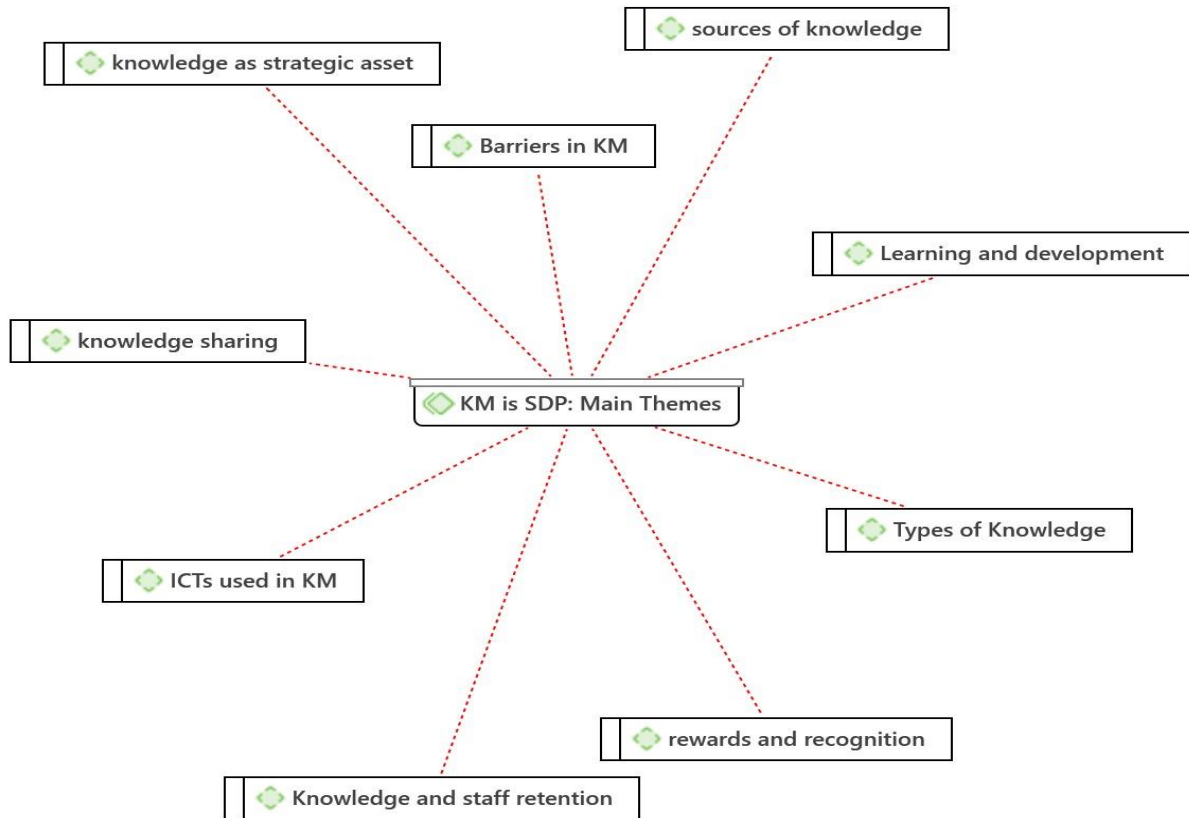
#### **6.4. INTERPRETATION AND DISCUSSION OF QUALITATIVE RESULTS BASED ON THEMES**

The analysis and discussion are carried out by examining themes derived from the data obtained through Alast.ti software, encompassing the five sections outlined in the interview schedule. The qualitative findings are examined and interpreted, incorporating direct quotes from participants' interview responses, alongside an assessment of their comments in the context of the current literature.

Codes were generated through the creation of ascribed quotes. The method of coding resulted in the emergence of a diagram of networks (Figure 6.1) that visually represents the relationships between themes and their corresponding codes. These themes and codes are all derived from the field of knowledge management within skills development providers, with the purpose of addressing the questions from the interview schedule. It is important to note that the abbreviation SDP, including a number, was used to identify the interview participants as a way

of protecting their identity. Figure 6.1 below illustrates the themes stemming from knowledge management within skills development providers.

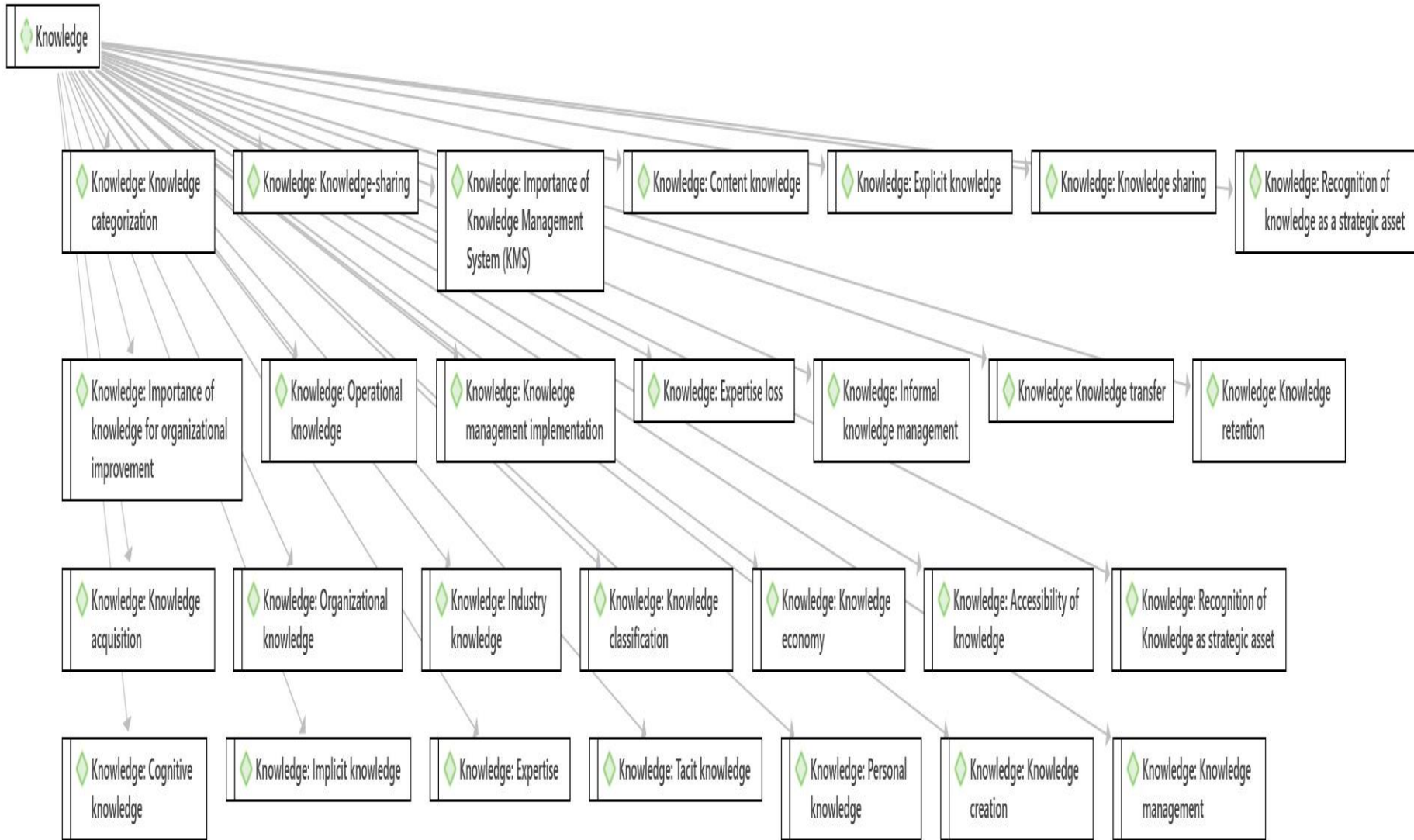
**Figure 6.1: Knowledge management themes**



## 6.5. TYPES OF KNOWLEDGE IN ORGANISATIONS

The participants' insights shed light on the different types of knowledge present within the various skills development providers (SDPs). Here, we explore the various categories of knowledge as identified by the participants. Figure 6.2 illustrates the identified themes resulting from the qualitative analysis of data pertaining to the various types of knowledge concepts.

**Figure 6.2: Types of knowledge themes**



### **6.5.1. Explicit knowledge**

Explicit knowledge refers to documented and structured knowledge, often found in training materials, manuals, and records. SDP 3 emphasised the existence of individual knowledge acquired from various sources and the importance of collective knowledge gained through team collaboration. SDP 3 said:

*In our organisation because we work with different departments there are people who are in finance, there are people who are doing training, there are people who are because we are based on a farm there are people who are currently in production so, the categories of knowledge that is available in our organisation mostly are the individual knowledge that someone is going to acquire from different institution or where they come from in terms of the back their background with agriculture and the other one that is available in our institution instead of the collective knowledge that we need to have because when we work together as a team in most cases would realise there are certain things that we are going to understand them differently so when you come to such situation that's where we sit down together and show each other the level of things that we need to understand or that we know that's how we do our knowledge in our farm or institution*

### **6.5.2. Tacit knowledge**

Tacit knowledge represents unspoken, experiential insights held by individuals. SDP 6 highlighted the transformation of interns' tacit knowledge into explicit knowledge through training.

*I think on our side we've got more explicit knowledge because we work with trainers being your assessors, moderators and facilitators. We need to always prove that they've got the right credentials to be able to do training. We also have a bit of tacit knowledge because we've got a lot of interns that we do take on. We would teach them how to do certain processes procedures maybe like filing admin that kind of work which in the end will also then become explicit knowledge because then they can get the credits towards what they have done*

### **6.5.3. Personal and organisational knowledge**

This category encompasses the unique skills, experiences, and expertise of individuals. Organisational knowledge encompasses policies, procedures, and documents that guide operations. This knowledge is vital for maintaining consistency within the organisation. SDP 10 pointed out the diverse skills and experiences of employees within the organisation, constituting, among others, personal knowledge. SDP 10 said:

*At our organisation we have personal and organisational knowledge because I think there are different individuals in the company. We also have different set of skills and experiences which is those are personal knowledge. In our enterprise for example we have the policies procedures and documents as organisational knowledge.*

Similarly, SDP 13 categorised knowledge within their organisation into different areas, including basic education at the primary level, higher education, knowledge related to SETAs and skills development, as well as individual expertise in areas such as business, academic roles, and institutional roles. SDP 13 said:

*We have got different categories of knowledge. We've got a knowledge on the basic education at the primary level that is related to Umalusi. Then we've got knowledge of higher education in the space of the universities and the TVETs. Apart from that we have got knowledge of SETAs-how they work in terms of skills development. We also have knowledge in with regard to individuals and people that have been in the system for some time. For example you have got a council, college council which possess different knowledges with regard to their portfolios that they are occupying. Within the council like for your business, financials, marketing and IT and knowledge. Then is knowledge that is possessed by former principals from different high schools that we have in the college as subject advisors and academic advisors. Apart from that we have got individual knowledge regarding how to conduct business in the education space.*

### **6.5.4. Craft-based knowledge**

SDP 12 introduced the idea that knowledge types are closely tied to specific skills, such as craft teaching, with different crafts having distinct bodies of knowledge. SDP 12 said:

*The types of knowledge are based, all of them are based on the types of skills that we do and we deal with craft teaching. So each craft has its own list of knowledges like*

*there is a section of the knowledge of materials that are used, the knowledge of the tools to be used for each category and then how to make or rather the production.*

#### **6.5.5. Practical knowledge**

Participants such as SDP 14 emphasised the significance of practical knowledge in skills training. This knowledge equips individuals to apply what they have learned to real-world situations. SDP 14 said:

*We have explicit as well as practical knowledge because we are doing a skills training. The practical component is very important in our organisation because we try, and teachers and they have to go out and apply the knowledge.*

#### **6.5.6. Cognitive knowledge**

SDP 17 introduced cognitive knowledge, emphasising the importance of understanding and applying acquired knowledge within problem-solving and practical contexts. SDP 17 said:

*We have the cognitive knowledge whereby whatever you have been taught we expect you to be able to apply it in solving questions. We expect you to be able to be able to read and understand the question then you will be knowing how to answer such questions. More so, our IT technician designed a system for learners using their student card to open the gates. He actually explained to us and he made us to understand how it was done so he had the knowledge of something and he actually helped others in knowing how to do such things.*

The following different types of knowledge within the SDPs, along with tacit and explicit knowledge, were discovered:

- Personal and organisational knowledge
- Craft-based knowledge
- Practical knowledge
- Cognitive knowledge

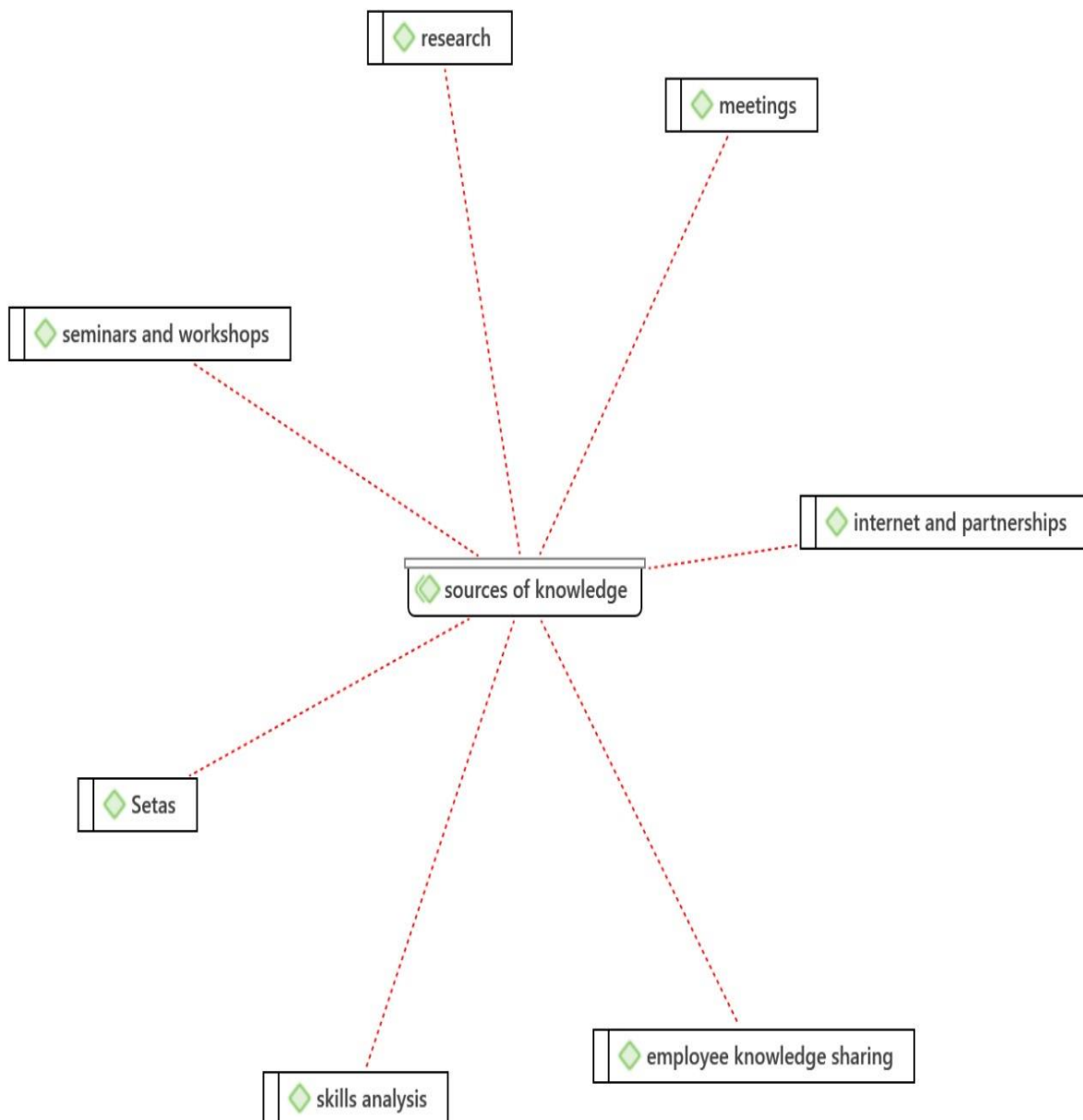
The results answer the question: What categories/types of knowledge are available at the organisation? The findings articulate that, since SDPs belong to different SETAs, they specialise in various skills programmes and recognise knowledge from different views. A study

by Beijaard, Verloop and Vermunt (2000:751; Moss, 2001) emphasised that the different types of knowledge identified by the participants are recognised as practical and implicit.

## 6.6. SOURCES OF KNOWLEDGE ACQUISITION

Understanding where organisations acquire knowledge is essential for effective knowledge management. The participants identified various sources of knowledge acquisition, as illustrated in Figure 6.3.

**Figure 6.3: Sources of knowledge acquisition**



### **6.6.1. Formal training and skills analysis**

SDP 3 discussed the role of skills analysis in identifying knowledge gaps and the importance of structured learning in classifying learners according to their knowledge levels. SDP 3 said:

*Sources of knowledge acquisition in our organisation mostly is establishing new ideas. For example, if you talk about new ideas before a project from the department we do a skills analysis. When we get to class maybe we will be having maybe four or five classes, we put all the learners in one space. After putting them in one space we are going to have a skills analysis document whereby every learner will sign or write or answer question on every page immediately. After that we will go back and go through all the questions and their education background. After doing that we are going to group learners according to their knowledge and understanding to avoid a prolonged lesson in class.*

*Noting further SDP 3 said they get most of their knowledge from AgriSETA. SDP 3 said:*

*We do have a WhatsApp group chat that we all communicate in, when we need some other information relevant on a specific date and time for example. In terms of SETA with AgriSETA is different because with AgriSETA there is a manual. We have our experts in terms of animal, poultry, plant production- those are the people who are generating our manual but of course our manual need to align with the South African Qualification Authorities. We don't just do or create or align manual without looking into what is expected from the qualification authorities.*

### **6.6.2. Internet and external partnerships**

Similar to SDP 3, SDP 7 highlighted the extensive use of the internet and partnerships with organisations such as SETA as valuable sources of knowledge. They also mentioned that these sources contribute significantly to their organisation's knowledge base. SDP 7 said:

*With us we gather knowledge from several sources such as your Internet. We also have SETA that we communicate with them thoroughly and on most cases, they offer us some materials that we can be able to use. We have our training tribunals and they also assist us in providing some help in terms of working together with organising and making sure that this knowledge is much broader. If we were to bring it into percentages one*

would see at least more or less 80 to 90% we get our information our knowledge from your Internet and SETA.

### **6.6.3. Seminars and workshops**

SDP 12 emphasised the role of seminars and workshops conducted by various partners, including government institutions and business sectors, in acquiring knowledge related to specific areas of expertise. SDP 12 said:

*From time to time, we attend seminars that are conducted by different partners that we work with department of higher education, Umalusi and all the SETAs including business sector. For example, SETA will have a knowledge about small businesses are within the SEDA. We have got an acquire knowledge with regard to issues relating to youth because we've got the partnership with NYDA at the national level. We are in partnership with different state institutions. Apart from that being now and then. contact workshop within the office specially to acclimatise yourself with the latest development with regard to education space, skills development space. For example, will QCTO we need to know the processes and so on of the QCTO so that knowledge we must acquire by attending the workshops different workshops including seminars and so on.*

### **6.6.4. Meetings**

SDP 8 highlighted the importance of regular organisational meetings as a source of knowledge exchange and dissemination. These meetings serve as forums to discuss new developments and updates within the organisation. SDP 8 said:

*They are so many processes and systems but our knowledge as organisation is printed mostly from our monthly meeting with our staff or with our executive members. During those meetings it's where we get an opportunity to get information from our employees and also to give out information about the new developments or updates regarding the operation of organisations. The meeting is very crucial and the other important creation process system is through the very same SETA. We send our employees there and when they come back we gain a lot of knowledge and information from them that we can implement in the organisation.*

#### **6.6.5. Employee knowledge sharing**

SDP 9 emphasised the role of employees as valuable sources of knowledge, especially due to their diverse learning experiences. Additionally, collaborations with other accredited skills development providers contribute to the organisation's knowledge pool. SDP 9 said:

*In our organisation you'll find that knowledge comes from our employees and their different learning experiences. We also get most of our knowledge from SETAs we are accredited with, again from other skills development providers we usually collaborate with on big projects.*

SDP 12 also shed light on the collaborative and proactive knowledge creation processes within the company. Monthly meetings serve as forums for brainstorming, networking, and sharing skills and information. The emphasis on teaching and learning from one another, backed by systematic documentation and access for all employees, fosters a culture of continuous knowledge creation. SDP 12 said:

*We sit together as individuals and then brainstorm bring all the information that we have. In our company we have monthly meetings whereby we meet, we network and socialise but in the monthly meeting there is always an information sharing and new skills shared especially from the person who is hosting that month. Through this, knowledge is created by brainstorming and teaching one another. Its reading then trying to design as group sometimes as small groups and the systems available we do share we type in we take minutes we file we backup and everyone has access*

#### **6.6.6. Research**

SDP 13 emphasised research as a primary means of acquiring knowledge. Within their context, research plays a pivotal role in expanding the organisation's knowledge reservoir and disseminating it to those in need. Similarly, SDP 6 said that they research knowledge when they want to use it, including the use of the internet and artificial intelligence. SDP 6 said:

*I think our sources of knowledge are quite various. We don't stick to one; we would use whatever we require at that particular moment in time. We do a lot of Internet searches. We do attend a lot of industry conferences and workshops. As of late we've been using a lot of Artificial Intelligence technology. It depends on the need at that particular moment in time being a training company you don't get to train only on what you know*

*sometimes you're asked to develop something that you don't know. As a result, now you need to sit down and do research.*

The results answer the question: What are the sources of knowledge acquisition in the organisation? This question emanates from the KM process in the SDPs. As per Kaba and Ramaiah (2020:532), in support of the above, knowledge acquisition, as a component of knowledge management, encompasses the systematic process in which a person or organisation acquires information and then critically reflects and practically applies the learned knowledge. The skills development providers are in a position to acquire knowledge from multiple sources to be effective and efficient in their skills development operations.

The findings present several sources of knowledge acquisition within the skills development providers as follows:

- Formal training and skills analysis
- Internet and external partnerships
- Seminars and workshops
- Meetings
- Employee knowledge sharing
- Research

## **6.7. RECOGNITION OF KNOWLEDGE AS A STRATEGIC ASSET**

The participants unanimously recognised knowledge as a strategic asset within their organisations. SDP 13 highlighted that, in the knowledge economy, knowledge is power. SDP 13 said:

*As an organisation, we cannot go anywhere without the value of knowledge. You need to have knowledge. It's a strategic asset – knowledge is power. You need to have knowledge and use it strategically so to advance the vision and mission of the institution. We believe in people that have been there tried and tested to tap in terms of moving. As a person you need advice, you need information. It is very important to understand what is happening not only in your education space but also in the in the country and education as a whole so we regard it as a strategic asset.*

SDP 1 emphasised that their quality management system (QMS) is evidence of this recognition. Regular planning sessions, documented in meeting minutes, give emphasis to the strategic importance of knowledge management. SDP 1 said:

*Yah definitely if we not recognising it as an asset we couldn't be having our QMS. From time to time when we start the year we plan and that planning forms part of our knowledge management because we keep minutes of what we have concluded upon in those meetings.*

Similarly, SDP 3 highlighted leadership's acknowledgment of knowledge as a strategic asset. He linked the progress and success of the organisation directly to the knowledge possessed by its individuals. SDP 8 echoed this sentiment, stating that executive management acknowledges knowledge as a critical asset for organisational improvement. SDP 8 said:

*Our executive management in the organisation that I serve they recognise knowledge as a strategic asset, and we regard KMS as a very important asset for the organisation. Without knowledge there's no way that we can achieve or even improve where we lack as an organisation.*

However, it is worth noting that not all organisations have formalised strategies for knowledge management. SDP 4 shared that their organisation primarily relies on informal processes for knowledge sharing and management. SDP 12 introduced an intriguing perspective, highlighting the challenge of convincing individuals to treat knowledge as a confidential strategic asset. Within a context where many employees may have limited formal education, the concept of knowledge confidentiality becomes complex. SDP 12 said:

*Many people do not know that there is a strategic asset in knowledge. I even ask people why they share information when they do not know the recipe of Coca Cola and KFC. I do not think our people know this especially that most of them we empower the people who are unemployed who are not really educated who left school just after middle school grade 7, grade 8, grade 11. It is difficult to take them to that intellectual level to push them that high up mentally to realise that knowledge should be confidential. They want to brag with it they want to show off so they disclose.*

SDP 14 emphasised that knowledge management is inherent to every organisation. Daily meetings and briefings are a testament to the vital role that knowledge plays in organisational functioning. SDP 14 said:

*Definitely sir because there is no organisation that can run without knowledge management. We have daily meetings or briefings that we run as an institution on a daily basis depending on some days. We have departmental meetings and other days we have the meetings for everybody on the ground with the staff.*

SDP 5 emphasised the sensitivity of company information, emphasising the potential damage that leaks could inflict on the organisation. Recognising the significance of structured reporting systems, SDP 5 hinted at the need for robust controls and safeguards to protect valuable organisational knowledge. SDP 10 similarly emphasised the organisation's recognition of knowledge as a strategic asset. SDP 10 said:

*We do value the knowledge as strategic asset, and as a skills development provider we cannot service without the knowledge at all. We are operating in a knowledge economy. We are compelled to update our knowledge capacity each and every day.*

The emphasis on resources and strategic assets has resulted in an expansion of the resource-based view (RBV) framework, namely towards the knowledge-based view of the company (KBV). Therefore, knowledge represents the preeminent intangible asset for the organisation from a strategic standpoint (Antunes & Pinheiro, 2020:142). Knowledge is a strategic asset that may be leveraged to establish and maintain a long-term competitive edge for organisations (Farooq, 2019).

Skills development providers are at the forefront of creating knowledge through the skills training programmes they are conducting. The above findings answer the question: Does the leadership of the organisation recognise and value knowledge as a strategic asset? It is revealed that knowledge is recognised as a strategic asset in the skills development sector. The following statement answers the question:

- Knowledge is power; SDPs cannot survive without knowledge.
- The use of a quality management system in the SDPs allows knowledge to be recognised as a strategic asset.
- Knowledge confidentiality and sensitivity.

## **6.8. ICTS USED IN KNOWLEDGE MANAGEMENT**

In this section, the crucial significance of information and communication technology (ICT) in the field of knowledge management within SDPs was determined. Participants emphasised the application of ICT for tasks such as information storage, accessibility, and sharing, along with an examination of the challenges and opportunities it presents. The qualitative data analysis of ICTs yields apparent themes, which are represented in Figure 6.4 below.

**Figure 6.4: Information and communication technology themes**



SDP 1 detailed their approach to information storage, using memory sticks kept securely at her home and cloud-based repositories for learner results. This dual strategy ensures both physical and digital backups, enhancing the security and accessibility of critical data. SDP 1 said:

*We are keeping every information and like all the results of our learners we are keeping the information in a memory stick which is kept, which is kept home where I'm staying. I only bring it when we have to put in information. We are also putting our learners results on cloud and I think it is very safe so that is how we are trying to keep it in the repository.*

While discussing ICT adoption, SDP 1 noted that barriers to technology usage hinder their organisation's progress. Despite having resources, there is uncertainty about effectively harnessing these resources. SDP 8 emphasised the advanced ICT infrastructure in their organisation, which includes online platforms, emails, and visual meetings. The integration of cloud storage further enhances data security and accessibility, particularly during the COVID-19 era, when visual communication and remote access became imperative. SDP 8 said:

*We do have the best ICT structure available in our organisation we have online, we have emails and through Covid that the visual meetings, the visual workshops have created accessibility for people to do gain knowledge in the organisation, so our IT infrastructure is very up to date if I can say so. Just like I've said that we have the best ICT in our organisation that can provide a backup on the cloud storage, and we very depend on that, and we do have such in where I'm working.*

SDP 6 provided insight into the technical aspect of knowledge management. Their organisation utilises Microsoft education licenses to create an extensive platform for storing and sharing information among team members. This technological infrastructure enables efficient data management and facilitates collaboration within the organisation. SDP 6 also emphasised the importance of continuous communication and readily accessible digital resources. Manuals, online libraries, and cloud storage enable employees and learners to access knowledge 24/7, fostering a culture of continuous learning. SDP 6 said that, in the digital age, there is a shift towards 90% digital storage, with limited reliance on hard copies. This transition aligns with contemporary trends in digital knowledge management.

SDP 10 outlined the usage of quality management systems (QMS) and learner management information systems (LMIS) through laptops. These systems streamline knowledge management processes, making information readily available to students. SDP 10 said:

*We use the quality management system we call it QMS, and we also have a learner management information system, normally we just call it LMIS. We are using all these systems through our laptops. We do have the basic, like we are using our memory sticks, like external hard drive. We are in the process of learning how to use the Google iCloud. For now, we are only using the memory sticks and the external hard drives. But you know these things are not that reliable others they get crushed. When we are busy working with them and the memory stick can just get lost, but for now that's all we are only like using in the organisation.*

SDP 13 noted the utilisation of electronic creative management systems, ICT contracts, and SETA learner management information systems. This ICT framework supports knowledge processing and dissemination. SDP 13 said:

*Our creative management system it's electronic. We have got a contract with a ICT company that is assisting us with how we deal with knowledge within the institution but apart from that we got the learner management information systems that is ICT base. We also use a different SETAs learner management information system to deal with knowledge processing.*

SDP 17 introduced machine learning and predictive analysis as technological tools that contribute to knowledge management. These AI-driven systems likely enhance data analysis and decision-making processes. SDP 17 said:

*We have machine learning, and we have predictive analysis*

*SDP 18 elaborated on their learner management information system and database usage, emphasising how these digital tools support their knowledge management programs. SDP 18 said:*

*We have our own learner management information system, and we are also using the database which is the excel and the spreadsheets for saving our management system programs.*

SDP 3 explained their reliance on databases for information storage, with external backups to mitigate data loss risks. This dual approach ensures data security and accessibility. SDP 3 said:

*We do have a database whereby all our information they are kept. We have a company that is been tasked to hold our information more like keeping it as a backup in case maybe we might lose our possession like our laptops, it is our external drive. Besides the company I do a certain process whereby each and every after three months I have an external drive that I do save other information, in case maybe the very same company that is being taught to keep our information come across some other things that are beyond our control.*

SDP 7 elucidated their strategy for information storage, using USB drives and laptop partitions. This approach safeguards data against potential laptop crashes and enhances data recovery. SDP 7 said:

*Yes, I would say, but I must indicate you must have a safe deposit; if you were to take this in the context of you being a person who works with money in a daily basis. You cannot go to the bank every now and then. After you do your record, you know so in most cases you may have a safe in the house where you keep the money later take you to the bank. The latter would apply to us as well, yes we do keep our information safe and how do we do that? There's USB that is dedicated for such purposes and in the laptops you got the storage you got two storages, one would have a partition where you put some information in the drivers in the laptop. Maybe for some reason the laptop crashes you know you do have your D-drive as a storage back-up. The D-drive is where we normally replicate what we have in the office to the side so that when we have problems on this side that we know that we can be able to get the information on our D-drive*

SDP 12 discussed their use of WhatsApp groups for communication and information sharing. They also emphasised the importance of backup systems and various gadgets to ensure data resilience. The organisation is in the process of creating a website through funding from SEDA. SDP 12 said:

*The WhatsApp groups are just sufficient because that is what everyone has access to. The minutes are typed when we hold our meetings – we record, we do voice have records number and then we sign the minutes. We write minutes, we type them, we share*

*and then and then we back up everything. We make it a point that information is on various gadgets so that when we lose one we do have the other. About infrastructure, we do have computers, memory sticks, hard drives and tablets and minutes, yes and our phones of course, yes our smartphones. I'm still going through the process of creating the website through funding by the SEDA so yes there is also going to help us.*

The findings present the access and usage of different technologies in the SDPs to support the KM processes. It can be stated that ICT plays a crucial role in KM processes in the skills development sector. Information and communication technologies are widely recognised as essential tools to enable KM within organisations. This is primarily due to the capabilities of digital gadgets, the worldwide web and other related resources, which enable various activities such as knowledge retrieval, creation, storage, exchange, and sharing (Cuéllar-Sánchez, Dueñas-Peña & Palacios-Rozo, 2023:420). According to Ayatollahi and Zeraatkar (2020:99), over the past decade, significant technological advancement has resulted in the emergence of both hard and soft technologies. This progress has had a transformative effect on human society, leading to its transition into a knowledge-based community. The above findings answer the question: Is there a proper ICT infrastructure to support KM processes? The following have been recognised in the SDPs as ICT tools to support KM processes:

- The use of cloud storage for safekeeping of organisational records
- Online meetings and workshops
- Quality management systems (QMS) and learner management information systems (LMIS) through laptops
- Ability to back up data remotely
- The use of instant messaging apps for communication and knowledge sharing

## **6.9. KNOWLEDGE AND STAFF RETENTION**

Retaining knowledge is a challenge faced by many organisations, particularly those that rely on freelance or transient employees. SDP 8 shared insights into their organisation's approach, emphasising the importance of monitoring and coaching new employees during induction and orientation. This systematic approach ensures that knowledge is transferred efficiently, especially when embarking on new projects. SDP 8 said:

*Retention of knowledge in the organisation is through monitoring and coaching our new employees especially when they enter the organisation through induction and*

*orientation. When we get new contracts, the project we like to monitor people to have a knowledge regarding those new project – the facilitators or assessors or skills development officers in this regard will be tasked with that responsibility to orientate or take new employees for induction process before they can even start being given formal duties orientation and induction is very crucial.*

SDP 9 provided a contrasting perspective, explaining the difficulties in retaining expert knowledge due to the freelance nature of their assessors and facilitators. In such scenarios, maintaining a consistent pool of expertise becomes a challenge. SDP 9 said:

*Expert knowledge is not retained as our assessors and facilities facilitators are available on the basis of freelancing, others end up having permanent jobs and it's not easy to retain expert knowledge.*

SDP 11 presented an alternative method, emphasising the creation of a centralised hub to document knowledge. Additionally, their organisation relies on structured training programmes, guidelines, and a culture of knowledge sharing and collaboration to retain expert knowledge.

*Expert knowledge is retained in our organisation and it involves creating a centralised hub to document knowledge and depending on training programmes, the guidelines, and how to overcome related obstacles. The college culture of knowledge sharing and collaboration forms the expert knowledge retained in the organisation.*

SDP 13 highlighted their commitment to retaining valuable personnel who contribute positively to the organisation. They also tap into the expertise of individuals with extensive industry experience, seeking their advice and skills to enrich the organisation's knowledge base. SDP 13 said:

*We try by all means to retain the stuff that we have by making sure that you don't let go of people that are contributing very positively to the organisation. We also look for people that have been in the industry for some time that we normally consult with regard to advice and the skills that they possess in our space.*

SDP 1 mentioned that while they do train their staff, it is not a regular practice. They allow employees to leave the organisation when they wish, implying that tacit knowledge may not be retained, but explicit knowledge is documented. SDP 1 said:

*The staff is being trained but not regularly. We just train them as and when there is information but we do allow them to go out if they want to leave the organisation. So it means the information is not retained in the form of tacit kind of information but the explicit one we note it down and keep it as it is.*

SDP 2 outlined strategies to retain expert knowledge, including offering contracts to facilitators, assessors and moderators. Recognising their contributions and providing satisfactory compensation also play a role in staff retention. SDP 2 said:

*We try to retain the expert knowledge in the organisation by giving our facilitators, assessors, moderators contracts. This makes them to work longer in our institutions. We also create a harmonious atmosphere by recognising their effort and dedication. We compensate our facilitators, assessors, moderators and project managers satisfactory and that allows them to stay more or longer in our organisation.*

SDP 6 highlighted a network-based approach to assessors and moderators, emphasising the importance of relationships, compensation, and resource provision in retaining knowledge. SDP 6 said:

*We do not have full time employees or full-time assessors and moderators. We work on a network of assessors and moderators. 90% are people that are experts in their field and we would use them as such. Everything boils down to the relationships that you build with the people. It always goes with compensation, how you compensate your people is how you keep them how you provide resources for them to be able to do their work will always guarantee a return of assessors and moderators so, essentially that is how we retain knowledge.*

According to Ramona and Alexandra (2019:231), knowledge retention refers to the cognitive act of recalling or reminding oneself of specific knowledge, abilities or processes acquired at a previous point. Most of the participants were able to provide mechanisms used for knowledge retention at their organisations. However, two participants stated that it is not easy to facilitate knowledge retention due to the nature of the skills development projects. The SDPs employ most of their human capital on a contractual basis, making it difficult for knowledge retention. The above responses from the participants answer the question: How is expert knowledge retained in the organisation? The participants identified the following mechanisms for knowledge management:

- Coaching and mentoring of new employees
- Induction or orientation programmes
- Documenting and sharing knowledge
- Training of staff
- Compensation
- Motivation

## **6.10. REWARDS AND INCENTIVES FOR KNOWLEDGE**

Several participants noted the presence of rewards and incentives to encourage knowledge management. SDP 3 detailed their organisation's approach, where incentives are provided for gaining specific skills, such as fumigation and herbicide application. This approach promotes knowledge acquisition and practical skills.

SDP 6 discussed policies within their quality management system that reward knowledgeable staff, creating a culture where continuous learning and industry expertise are valued. SDP 6 said:

*Part of your or part of our QMS it is it speaks to policies of rewards and incentives for assessors and moderators or for staff in general so. We do have policies that speak to knowledge management rewards and incentives for the assessors that are more knowledgeable. Those knowledgeable are going to be used regularly and will get compensated again. We do not have full time employees or assessors. It all depends on the next step or from your previous engagement with learners if they recommended you for more work when your evaluations come back. The more knowledgeable you are, the more accreditations you have, the more valuable you become in the training space. There is a culture where we encourage everyone to keep on learning or to try new things especially new things within the industry that we are working in.*

SDP 8, on the other hand, mentioned that their organisation does not have a specific policy for rewarding knowledge management, but offers other rewards to keep employees motivated. SDP 8 said:

*There's no specific policy supporting this knowledge management, though we do offer rewards for employees to keep them motivated and appreciated. To promote the implementation of KM system, I think the policy and guidelines on how KM should be*

*implemented, committed and motivated employees so we can provide more funding to ensure that the KM system is implemented and our employees are accessing that.*

SDP 13 shared a unique perspective, explaining that their organisation provides financial incentives for employees who bring in business related to skills development. This approach not only encourages knowledge management, but also drives business growth.

*We use different methods in terms of increasing or rewarding knowledge management in organisation. For an example with regard to our new site where we deal with learnerships, we say to employees if you bring a business that is related to skills development you get a 7.5% with regard to commission. You also get a bonuses if your project you manage your project 90 plus percent.*

The above findings present mixed reactions towards policies and rewards or incentives to support knowledge management. It is worth noting that SDPs lack a policy on the rewards or incentives to support KM. However, other SDPs have ways of encouraging their employees to support KM. Friedrich, Becker, Kramer, Wirth and Schneider (2020:345) stated that the utilisation of incentives within a corporate setting serves the objective of stimulating personnel to exhibit specific behaviours or engage in particular actions. The above results respond to the question on what policies and rewards/incentives are available to support KM in the organisation?

The following have been identified as ways to motivate employees to support KM initiatives within the SDPs:

- Performance bonuses
- Commission on successful business referrals

## **6.11. KNOWLEDGE SHARING**

The participants also discussed the accessibility of knowledge within their organisations. SDP 2 emphasised the ease of access to knowledge within their organisation. They mentioned regular contact with expert managers, sharing information during meetings, and providing access to workshops as avenues to facilitate knowledge accessibility. These practices paves the emphasis on the importance of open communication channels and collaborative environments within SDPs. SDP 2 said:

*Yes, we believe that knowledge is easily accessible in the organisation because we have contact with our expert managers, we do allow them to have accessibility in our information, e.g. policies we have meetings with everyone to share any information with them and sometimes you also let them to attend the workshops.*

SDP 12 elucidated the philosophy behind their training company's knowledge sharing approach. They begin by assessing what individuals already know, building on existing knowledge to introduce new concepts. This tailored approach considers factors such as the type of client, age, and intellectual level. It ensures that knowledge sharing aligns with the unique needs of each group. SDP 12 said:

*We are a training company, which means that that we are implementing the knowledge that we used to implement the training. It includes the people must know the content that they are expected to know and then to integrate it with what they already know. Normally we find out first what the people know and then we add up to that meaning. We start from the what they know, unknown from the known to the known to the unknown and then from simple to complex. We believe that there should be a beginning which is simpler and then we add up to that so it also depends to whom we offer our services because the people will not be the same. We should know the type of client that we are going to service and implement the knowledge management according to the type, the age, the intellectual level and so on.*

SDP 15 pointed out the role of social media and email in their organisation's knowledge sharing practices. Social media, particularly WhatsApp, is used to disseminate documents and information efficiently, enhancing communication among team members.

SDP 1 emphasised a culture of openness and accessibility to information within their organisation. Adhering to principles such as *Batho Pele*, they ensure that information is readily available to both internal and external stakeholders. This approach fosters transparency and promotes knowledge exchange, even with external partners. The commitment to freely share information signifies a dedication to open communication and collaboration. SDP 1 said:

*We apply that principle of openness we know we apply the principle of Batho Pele principle where by information should be accessible to anybody even the outside partners they can get information. We share it with anybody who comes in who may want to get information as to how. For example it maybe to establish their own*

*trainings, new trainings it's like now as we are speaking you are conducting an interview with me to get information. I am give it to you for free and do not hide any information to anybody who wants it, thank you.*

SDP 8 echoed this sentiment, highlighting that knowledge accessibility spans all organisational levels, from lower-tier employees to senior executives. The participant further emphasised the interconnectedness of team members and the importance of sharing information to achieve the organisation's objectives. SDP 8 said:

*The knowledge is accessible to all employees from your lower level up until your senior executive in organisation because we cannot hide information from each other remember as a team we need to share access information inform others as an, as we're interdependent from each other for the performance of good objectives of the organisations.*

The results demonstrate the availability of knowledge within the SDPs, facilitated by processes of sharing information. The sharing of knowledge plays a crucial role in the organisation's performance and success. It is imperative that every employee stays informed about daily developments in the work environment, a goal achievable through mutual knowledge sharing among colleagues. The practice of sharing knowledge is fundamental and essential for the effective functioning of the organisation. The enterprise's knowledge-based view underlines the strategic importance of knowledge (Ahmad & Karim, 2019:208). The findings address the question: Is knowledge easily accessible in the organisation? From the results, the following aspects have been employed in the SDPs to facilitate knowledge sharing:

- Regular contact with expert managers, sharing information during meetings, and providing access to workshops
- Staff training
- Communication channels (instant messaging apps, social media and the use of email)
- Readily available knowledge to both internal and external stakeholders

## 6.12. TRUST IN KNOWLEDGE MANAGEMENT

SDP 2 emphasised the significance of trust and openness within the organisation, creating a conducive atmosphere for collaboration. SDP 2 said:

*We always ask staff to be trustworthy and openness to other staff because it allows everyone to be dedicated in his or her work. In all the organisation for it to run successfully there should be openness, trust and dependence on each and every one of us for the success of any operation and yes the trust is too available in our organisation.*

SDP 4 acknowledged the trust placed in employees to work independently and the openness that allows them to fulfil their roles. SDP 4 said:

*Yes, there is a trust, employees usually they work on their own. We trust them they can do their job there is an openness for employees to our work that's the thing that I can say Sir.*

SDP 7 stressed the importance of trust in accessing certain systems and emphasised the need for mutual trust among employees to maintain a transparent working environment. SDP 7 said:

*Without a doubt, sir, without trust and being open might compromise the information that we have in the organisation. Remember for you to be able to access certain systems, one needs to have trust in you. Without such in place basically you are doomed, you need to have people that you trust, you need to have people that you know you can rely on. I honestly say yes we trust, we do have trust and we're able to give our employees much needed trust. Remember trust is the first thing and one should be able to trust the other. The other should be able to trust the other as well.*

SDP 8 recognised the role of trust and openness in fostering a conducive work environment. SDP 8 said:

*Certainly, we cannot be where we are currently if we are not, we don't trust each other. As a team we need to be open to each and every member and so that our work environment can be conducive for one.*

SDP 9 identified trust as one of the factors contributing to knowledge management success, alongside policies, a learning culture, and adequate ICT tools. SDP 9 said:

*OK, from some of your questions, those factors are present like a policy, a learning culture, proper ICT that we just spoken about, and then a relationship of trust amongst ourselves, a strategy and tools or even systems to support knowledge management.*

SDP 10 mentioned that trust and openness are essential in their organisation, as they rely on each other to exceed customer expectations. SDP 10 said:

*There is trust and openness in our organisation, because we rely on each other just to make sure that we exceed our customers' expectations.*

SDP 18 highlighted the presence of trust and a harmonious working environment among employees. SDP 18 said:

*There's a lot of trust in our organisation our employees they support each other, and they are doing their responsibilities as per their job descriptions and as per their contract and there is a harmonious working environment that they have created.*

Trust may be defined as “the willingness of a party to be vulnerable to the actions of another party”; when trust is established, it might manifest through the display of behaviour that involves taking risks (Mayer, Davis & Schoorman, 1995:712). Within the context of the SDPs, it is acknowledged that trust and openness permeate. For successful KM practices, the work environment should be conducive and transparent to all employees. Trust among employees engenders a culture of reliance towards the achievement of the organisational strategic objectives. The importance of trust in fostering the effective implementation of KM is widely recognised (Svare, Gausdal & Möllering, 2020).

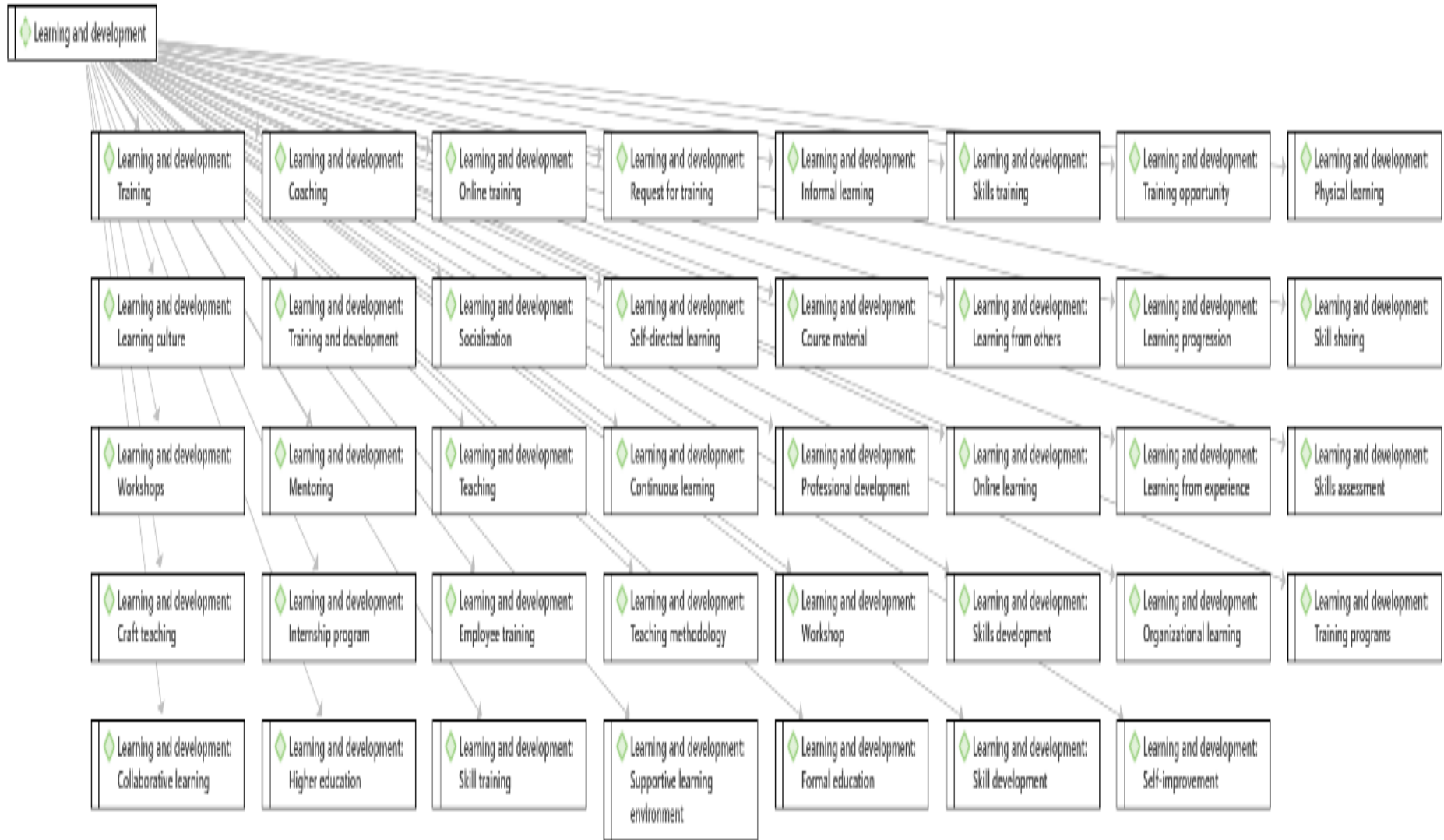
The above results address the question: Do trust and openness permeate in the organisation? The following aspects pertaining to trust and openness in the SDPs were also identified as essential to the organisation:

- Transparency
- Conducive work environment
- Team work
- Employee collaboration

### **6.13. LEARNING AND DEVELOPMENT**

This part focuses on the crucial element of education and growth within SDPs. It investigates the cultural and pragmatic aspects of knowledge management in this particular setting. Figure 6.5 illustrates the themes derived from the qualitative analysis of data pertaining to the concept of learning and development.

**Figure 6.5: Learning and development themes**



### **6.13.1. Culture of learning and development**

SDP 1 emphasised the significance of a culture of learning within their organisation. They facilitate workshops, encourage employees to complete portfolios of evidence (PoEs) for various courses, and ensure that staff members are both assessors and moderators. This approach fosters continuous learning and development.

SDP 7 emphasised the importance of capacitation programmes, monitoring and evaluation, morning briefings, suggestion boxes, and knowledge sharing through videos. These initiatives contribute to employee learning and development within the organisation. SDP 7 said:

*We do have capacitation programs, we do have monitoring and evaluation. Sometimes we have morning briefings and we take priority to suggestion boxes. At times we record videos and share with other staff members so that they can be able to expand their knowledge this is in terms of the systems and the process of organisation.*

SDP 18 emphasised the significance of employee commitment and continuous learning, highlighting capacity-building and training as integral aspects of knowledge management. SDP 18 said:

*I would say is the commitment of our employees as well as the continuous learning that we are giving them capacity building training them on how to run and to do their activities in the organisation.*

### **6.13.2. Learning culture**

SDP 4 highlighted their learning culture, where employees receive accredited skills programmes. They invest in training to ensure employees gain the knowledge and skills necessary for various tasks. SDP 4 said:

*Yes, we do have a learning culture for example our production manager is an expert in vegetable production. We do have skills program that are accredited for all the employees that needs specific skills. For instance for when we do fumigation and application of herbicide as well as the insecticide most of our employees they did not understand the process of when to apply. All that we did was take them through that process so that they can gain knowledge and skills in terms of doing fumigation.*

SDP 5 described their weekly meetings and training sessions, emphasising the need for training, awareness, and workshops to enhance employee competence. SDP 5 said:

*Usually we are on weekly meetings and we do trainings that's what we're doing in our company. I would say training must be the first one, the organisation must train people, must give people awareness, must give people and the workshops must have TikTok. We do training, and then we do we have weekly inspections to check if the employees are competent enough to perform the job or to perform the task.*

SDP 6 discussed the importance of keeping up with industry changes, mentioning the rapid evolution of technology. Staying ahead of students' knowledge levels and forming industry partnerships are strategies to ensure knowledge currency. SDP 6 said:

*Yes, we always have to keep abreast of us to what is happening in the industry. I think with that rapid changing technology you can't be complacent. You always have to be one step ahead of your students. As a result we have to give it much attention in the same way I'd always say to my trainers if I know more than what you know about your area then you're fired. Essentially you need to always keep abreast to the changes in the industry as to what is going on in my industry. Because they don't work in the industry anymore they would be assessors and moderators they need to have friends in the industry that are able to tell you all these are the changes. Maybe you need to become part of the industry body because that is where you also get information as to what are the changes that are occurring in your industry.*

### **6.13.3. Training methods and tools**

SDP 6 explained their approach to training, including workshops, coaching, mentoring, and physical workshops for specific projects. These tools are used to facilitate training, both online and in-person. SDP 6 said:

*We normally have trainer sessions where it's like a workshop, we go through topics. If we have got coaching and mentoring we'll have one for the coaches and mentors where again we'll go through the deliverables of that project and make sure that everyone is capacitated according to the deliverables. We have those processes or tools in place to be able to facilitate that kind of training online even if it needs to be a workshop we do a physical workshop.*

SDP 7 detailed their capacitation programmes, monitoring and evaluation practices, morning briefings, and video sharing. These initiatives enhance employee knowledge in organisational processes. SDP 7 said:

*When coming to that question how best can I say this, we do have capacitation programmes, we do have monitoring and evaluation, sometimes we have morning briefings and we take prior to suggestion boxes. At times we record videos and share with other staff members so that they can be able to expand their knowledge in the processes of the organisations. This is in terms of the systems and the process of organisation. I believe if we have enough financial resources we can improve and even start to offer online trainings. There's always a room for improvement you know because now they speak of fourth industrial revolution. Certain things are going to change with machine learning. There's a lot of things that are happening so one would need to actually invest in such hopefully in the future we'll be able to offer some of the trainings online.*

SDP 8 explained that their organisation sources knowledge through SETA workshops and offers bursaries to employees for further studies, fostering a culture of continuous learning. SDP 8 said:

*The organisation that I serve, our source of knowledge is through SETA workshops where we send our employees for training information sessions. When they come back we will have to find out what is it that they have gained and what is it that they expected through those SETA workshops. Our main source is actually a SETA as an entity. We offer our employees bursaries to further their studies, as one of our learning cultures and that motivates employees to upgrade their qualification.*

SDP 13 spoke about the organisation's culture of continuous development. They believe that no year should pass without employees attending training or gaining certificates to enhance their skills.

*We have got a culture as an organisation we believe that a year should not just pass by without one attending any training or getting any certificate whether its credit based or whether it's just attending. We make sure that individuals are capacitated year in year out on their position so that they can continue to learn. We can't believe skills development and we don't develop ourselves and don't develop our skills.*

On the other hand, SDP 12 said that, because of the nature of the skills that they provide, they learn from each other every day. SDP 12 said:

*We meet regularly to socialise, to teach one another new skills and to make it a point that when we part each one goes out with something that is unique, that is new. Whenever we meet, the main aim is what is new as we do the crafts fashion and other crafts decorations same as when you visit a clothing shop in town you want to see what is new. We also want to offer that to people so we teach one another and in the process we all learn new things. Whoever discovers anything comes to the to the group in the next meeting to demonstrate. We all get a chance to demonstrate to the rest and everybody wants to take takes pride in that because it also builds up their confidence so they want to do that so it's it is our culture.*

SDP 18 discussed their skills audit, training and development programmes, and staff support policy. He emphasised the commitment of employees and continuous learning as vital components of their knowledge management strategy. SDP 18 said:

*We do have the skills audit; we do the training and development programs, and we have a policy called learner sorry staff support policy. I would say is the commitment of our employees as well as the continuous learning that we are giving them capacity building training them on how to run and to do their activities in the organisation.*

#### **6.13.4. Lack of learning culture**

SDP 16 mentioned a lack of a learning culture within their organisation, where individuals are primarily responsible for teaching themselves new skills. SDP 16 said:

*In this organisation there's no learning culture in place individuals are always working on teaching themselves new things*

Most of the SDPs are in agreement that there is a learning culture in their organisations. Moreover, it important for the employees within the skills sector be able to learn from one another. The need to foster a learning culture inside an organisation for the development of effective knowledge management practices is generally recognised (Duryan, Smyth, Roberts, Rowlinson & Sherratt, 2020). It is crucial for businesses to establish a learning culture and to facilitate the creation of possibilities for learning and developing new talents in order to successfully implement knowledge management (Kirchner, Ipsen & Hansen, 2021).

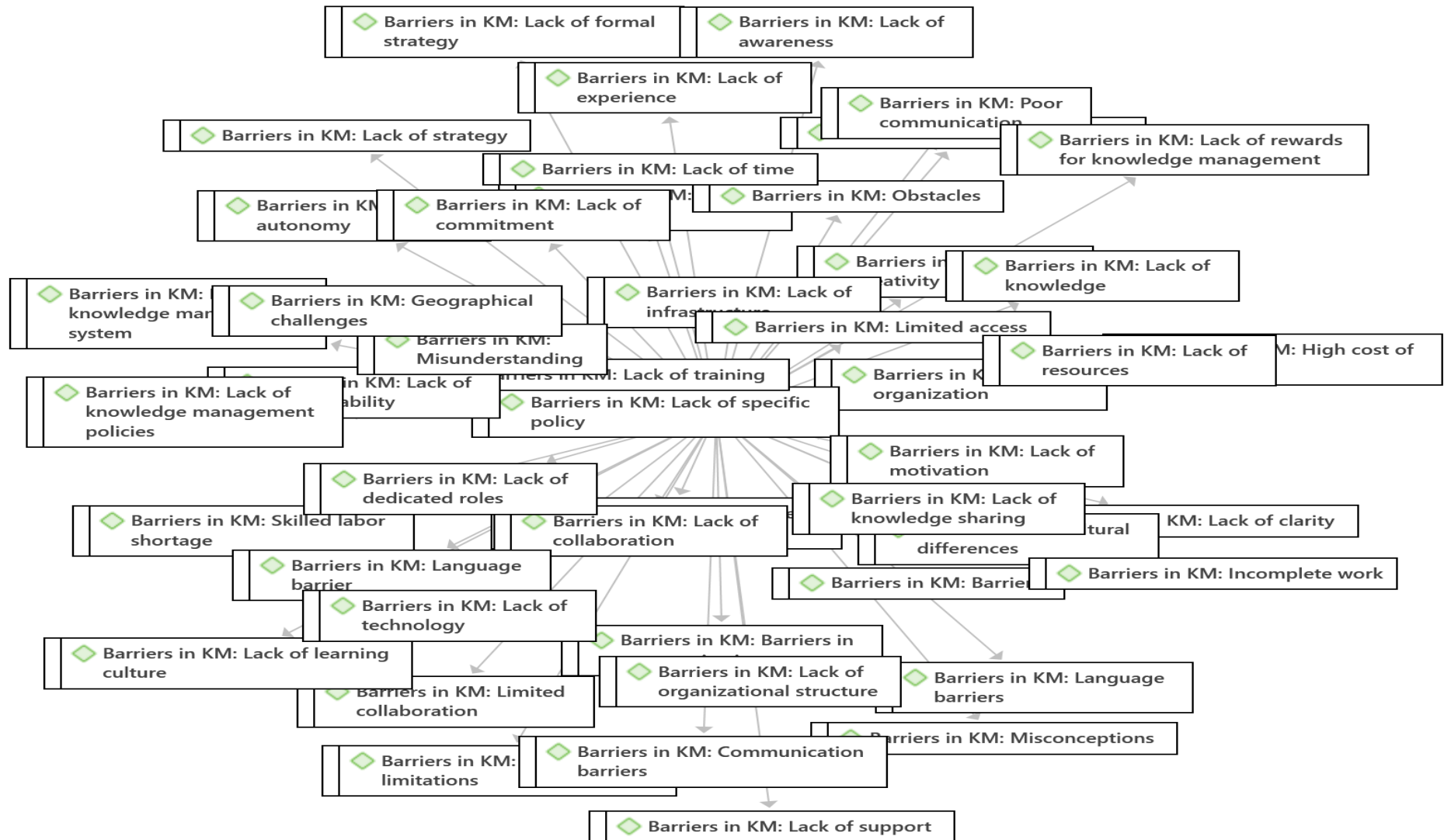
The findings answer the following question: Is there a learning culture at the organisation (people learning on their own and helping one another learn)? In response to the question, the following practices are conducted in the SDPs with the aim of facilitating a learning culture:

- Facilitation of workshops and various courses for employees
- Monitoring and evaluation, morning briefings, suggestion boxes, and knowledge sharing through videos
- Employee commitment and continuous learning
- Training and awareness programmes
- Bursaries to employees to further studies
- Skills audit

#### **6.14. BARRIERS TO KNOWLEDGE MANAGEMENT IMPLEMENTATION**

Within the field of knowledge management, organisations frequently face diverse challenges that impede the effective harnessing and utilisation of their intellectual resources. Through interviews with proprietors or managers, several significant obstacles to proficient knowledge management have been underscored, providing insight into the complexities that organisations confront in this critical area. Participants have pinpointed various barriers that obstruct the formal implementation of knowledge management. Figure 6.6 illustrates the themes pertaining to barriers in the implementation of knowledge management within SDPs.

Figure 6.6: Barriers to knowledge management



*Limited training, funding, personnel and technology*

SDP 1 highlights two significant barriers to knowledge management in their organisation. She said that there is a struggle with technology adoption. Despite having resources, they lack the expertise to leverage technology effectively for knowledge management. Secondly, she mentioned the lack of commitment among employees when she is not present. This points to the need for comprehensive policies and disciplinary measures to ensure knowledge management procedures are consistently followed. SDP 1 said:

*Like I'm saying the barriers are the usage of technology that's why we are saying we want one or two people to come and assist us in terms of the Human resource in order to apply technology to keep the information for the organisation. In a nutshell that's what we are doing and the resources are there but we are not sure as to where these resources are, how can we make use of them that is how far I can answer that question. We lack experienced staff members. The ones we have don't understand this terminology of knowledge management and to them each and every information they just treat it like it's just an information that they can just get from the streets. Sometimes our workers are not committed when you are not there. I need to draw some strict policies and if they bypass that policies they need to be punished in a way of disciplining them. We do not have enough funds to can put this knowledge management system in place.*

SDP 2 identifies a critical barrier in the form of inadequate technological infrastructure. Additionally, it was highlighted that the absence of advanced storage systems like DB 2000 could significantly hinder knowledge management processes in the skills development institution. SDP 2 said:

*Except our daily Microsoft Word or Excel we don't have systems like DB 2000 and other storage which are more advanced for a learning institution.*

SDP 4 briefly outlines the triad of barriers: training, funding, and technology. Without proper training, employees may struggle to grasp the intricacies of knowledge management. Funding is essential to implement effective systems and practices, and technology plays a pivotal role in enabling efficient knowledge management. SDP 4 said:

*We need trainings, funding and technology. If we can have access on that then we can have those things like trainings and findings in our companies then everything will be in place.*

SDP 10 acknowledged that the organisation, which is a small to medium-sized enterprise, faces constraints when it comes to technology. While they have basic tools such as laptops, desktop computers, and internet access, they lack sophisticated technology that could streamline knowledge management. Additionally, they noted the absence of dedicated personnel responsible for knowledge management, highlighting the importance of specialised roles in this area. SDP 10 said:

*Our technology is basic because like I said we are a very small and medium enterprise. We don't have the luxury of all these sophisticated technologies but we do have like laptops, desk computers, internet also and small printers. It's not like we are well off especially when coming to the technology, but we are just trying our best with what we have. We do not have dedicated people who are responsible for the knowledge management we take everything as it comes.*

Similarly, SDP 7 identified two critical barriers. Firstly, the organisation has not formally implemented knowledge management practices, reflecting a lack of awareness and training. Secondly, the need for proper technological infrastructure to support knowledge management was underlined. Robust repository and document management systems are essential components. SDP 7 said:

*We have not implemented knowledge management formally. I think one would say it's a lack of training, lack of awareness about knowledge management implementation. I can also say lack of proper technology in place. Remember with knowledge management one would need repository. One would need what you call change management, one would need what you call a document management system in place because there's a retention period. There's a lot of things that you need to consider so most of them are dependent on technology. Factors that are causing in would be lack of training, lack of awareness's, lack of your proper technologies.*

#### **6.14.1. Load shedding, human resources and funding**

SDP 18 points out several obstacles. Load shedding, a common issue in South Africa, disrupts operations and knowledge management activities. The shortage of human resources poses

challenges, emphasising the need for a well-staffed team. Funding constraints also hinder knowledge management efforts, underscoring the importance of financial support. SDP 18 said:

*Because we are working with a training where we are always have to be projecting some of the content that we use. Load shedding is the biggest challenge followed by the human resources. We need more staff members as well as the funding that we are expecting or that we are actually looking for.*

#### **6.14.2. Clarity, language and policy implementation**

SDP 13 notes that clarity on roles and expectations is essential. When employees lack a clear understanding of their responsibilities, it can impede knowledge management. Language barriers, especially in diverse regions, can also hinder effective communication. Lastly, policy implementation must be a priority to remove barriers associated with policy confusion. SDP 13 said:

*In most of the cases, the barriers is having people with no clarity on what is expected from them that can be a barrier. If they don't understand but within our organisation in terms of knowledge management we try by all means to avoid the barriers. The other barriers it might be the language for example when we're dealing with our programs in the Northern Cape one has to be versatile in Afrikaans so that you impact the knowledge successfully. Language can be added in other cases it will be the working environment if the work environment is not conducive but within organisation the barrier is maybe clarification of rules.*

SDP 11 also mentioned language barriers as a unique challenge. In some cases, employees may not fully understand English, which can hinder effective communication and knowledge sharing. This highlights the importance of considering language diversity when implementing knowledge management initiatives. SDP 11 said:

*The barriers are language barriers, because some of them they don't really like speaking English due to way they were being brought up. I will say some of them they do not understand the English aspects.*

#### **6.14.3. Personal device requirements and limited opportunity for idea sharing**

SDP 15 pointed out that employees must provide their own devices and data, which can be a financial burden. Additionally, there is limited opportunity for employees to share their ideas freely as they are dependent on policy prescripts from the DHET, potentially stifling innovation. SDP 15 said:

*We have to provide our own like our own laptops, our own data we have to provide it and there is no internet for instance where we can share our ideas. More so we basically they apply the policies which come from the DHET as well as ETDP SETA and, but we don't get the opportunities to share our own ideas freely.*

#### **6.14.4. Scarce skilled labour**

SDP 17 identifies the scarcity of skilled labour as a significant barrier. Highly skilled individuals in knowledge management can be challenging to find and afford, emphasising the importance of investing in talent acquisition and retention. SDP 17 said:

*We lack skilled labour, skilled labour is the major barrier. We do not have people who are into knowledge management and they are t hard to come by. When you get one they kind of become too expensive to afford so I would say skilled labour yeah.*

SDP 8 also noted challenges related to the accreditation of facilitators and assessors and insufficient training budgets. SDP 8 said:

*One of the biggest challenges is most of our skills development officers are not accredited facilitators or assessors. We rely on skills officer for example who has studied to skills development or unit resource development course. We lack trained facilitators or assessors. The other part is lack of funding the budget for training that is we are given is not even enough to even train the formal qualification of more than 20 employees. On average we can only afford to send two or three people to acquire a qualification. With in-service training that's where we utilise mostly the not accredited facilitators to do in service training which is very disturbing and it disturbs us to achieve the goal that we have set as the skills unit.*

#### **6.14.5. Lack of commitment, management, and support**

SDP 9 identified the absence of commitment, management support, and guidance as barriers. These elements are crucial to drive the implementation of knowledge management effectively. SDP 9 highlighted the absence of critical components such as financial resources, commitment from management, and necessary support and guidance. These elements are essential to drive the entire process of implementing knowledge management effectively. Furthermore, communication barriers and poor leadership were acknowledged as significant inhibitors of effective knowledge management. SDP 9 said:

*We need to look at things like the nonexistence of several aspects like in terms of finance, commitment and management to drive the whole process of implementing the knowledge management, also to offer support and guidance in the organisation.*

Similarly, SDP 12 pointed out that the extent to which barriers manifest often depends on individuals in strategic positions. Leaders who actively empower and promote knowledge sharing tend to facilitate more significant growth and development within their groups. SDP 12 also emphasised the impact of practical factors such as access to data and the internet. The inability to distribute knowledge, materials, or information due to limitations such as load shedding, lack of battery power, absence of internet access, or even access to a mobile phone can hinder the effective implementation of knowledge management initiatives. SDP 12 said:

*Barriers can come at different levels. For me I think it depends largely on the individuals that are that are in strategic positions. You might find one leader who does or who leads making group more liberal in knowledge more empowering than the other. The one was who empower everyone will obviously get a more growth in the group with everyone growing and developing. The barriers depend on the individuals who have to share or who have or are given the position to share with others. Number two could be things such as data Internet data. You find that people want to share, they want to do the effective implementation of what knowledge management such as distribution of knowledge or seculars or new information or a new lesson, a new skill that is from the YouTube. But you can't distribute that to everyone because someone is under load shedding, no battery, no internet perhaps not even a phone. All those can be improved per for each individual through time but I think I've mentioned the barriers.*

SDP 3 similarly emphasises that strong leadership can address many barriers. Effective leadership fosters motivation, supports employees, and ensures that the organisation's resources are used optimally. Resource constraints, particularly limited access to the internet and personal devices, are obstacles that organisations need to overcome. SDP 3 said:

*There's only one factor that I believe it can cover all of them. I always say a proper leadership will always make everyone under the umbrella to perform better and understanding and sitting down all your employees to understand what keep them motivated will always make sure that organisations succeed.*

SDP 15 identified geographical dispersion as a significant challenge, with over 120 campuses spread across multiple countries. This dispersion makes it challenging to convene regularly at the head office. Additionally, the absence of an intranet connection restricts internal consultation and collaboration. SDP 14 highlighted that a lack of motivation and support within an organisation can hinder knowledge management efforts. Motivated and supported employees are more likely to overcome challenges. SDP 14 said:

*Not being specific but you'll find that if an organisation lacks motivation and support, it leads people to go through challenges that end up affecting the day-to-day runnings of every institution.*

SDP 6 expressed confidence that at their organisation they proactively address potential barriers. They provide employees with 24/7 internet access and equip them with routers for home use. This commitment to facilitating access minimises the impact of external factors such as load shedding. SDP 6 said:

*I'm not going to say we have much barriers because if you succumb to a barrier it means your objective is not reached so. You need to do whatever it takes to ensure that you achieve what is required we like I said to you you've got 24/7 Internet access even if you're home we provide you with a router that we pay for. It gives you access to the Internet 24/7 you have a laptop so, essentially you can't say there is a barrier that is making me not implement my knowledge management to say. We have looked at factors that could affect everyone I mean load shedding happens to everybody – it's like the sun shining and the sun not shining and that can never be a barrier you just need to then work around your timetable like how do I manage my time. From an*

*implementation point of view as a company I think we've done all that is required in order to implement then it'll be up to you the recipient whether you want to or not.*

SDP 7 proposed the designation of a knowledge management officer as a viable strategy to address challenges within her organisation and facilitate the integration of knowledge management procedures. This proposal is in accordance with the recognition that effective knowledge management often requires committed leadership and coordination. SDP 7 outlined that the responsibilities of a knowledge management officer would encompass the supervision of diverse facets of knowledge management, such as creation, storage, accessibility, retention, and acknowledgment. The role extends beyond managing the technical aspects of knowledge and includes the promotion of a culture that encourages sharing knowledge and continual learning within the organisation. SDP 7 said:

*Honestly we need to know, we need knowledge we need to know what we really want to achieve as the organisation so in this case we need knowledge management officer to drive the whole implementation processes, a proper ICT infrastructure. Our employees must be aware of what implementation of the knowledge management system maintains training is very important it's very imperative to have such training so that your employees are able implement knowledge management successfully.*

SDP 8 proposed the need for policies and standard operating procedures (SOPs) to promote knowledge management. Moreover, it was suggested that clear, concise SOPs can facilitate implementation and ensure employees understand how to engage with the knowledge management system. SDP 8 said:

*To promote the implementation of KM system, I think the policy and guidelines on how KM should be implemented, committed and motivated employees so we can provide more funding to ensure that the KM system is implemented and our employees are accessing that, so in short we need to have a policy and then to implement that policy we need to develop standard operating procedure so that we can have a clear indication on how we want to implement the KM system in the organisation. That will make it easy for people, you know people don't like to read these policies and so from our policy of skill development we can develop SOP, a shorter document that will be easy and understandable to our employees for the proper implementation of KM system.*

It can be articulated from the findings that the SDPs experience a number of barriers towards the implementation of KM. The barriers can be considered to be internal and external from their perspective. Skills development providers are faced with barriers from different viewpoints. The barriers identified are linked to various knowledge management processes, including the creation, acquisition, storage, sharing, and utilisation of knowledge. The introduction of knowledge management is accompanied by inherent challenges. However, it remains crucial to the successful functioning of a business (Guto & Ola-Awo, 2020:698).

The findings answer the question: What are the barriers to the effective implementation of KM systems in the organisation? The following barriers were identified as prevalent in the SDPs by the participants:

- Technology adoption
- Lack of commitment among employees
- Absence of comprehensive policies for the implementation of KM
- Lack of training
- Lack of awareness
- Load shedding
- Shortage of human resources
- Lack sophisticated technology
- The absence of dedicated personnel responsible for knowledge management
- Language barriers,
- Policy implementation
- Language diversity
- Scarcity of skilled labour
- Absence of commitment, management support, and guidance
- Absence of critical components such as financial resources
- Communication barriers and poor leadership
- Inadequate access to data and the internet
- Lack of motivation and support within an organisation

Nevertheless, certain participants provided essential elements for overcoming obstacles in the implementation of KM. Several of these factors were incorporated into the suggested framework for the implementation of KM within the SDPs, including:

- appointment of a knowledge management officer
- availability of policies and standard operating procedures (SOPs) for implementing KM
- provision of sophisticated technology

## **6.15. CHAPTER SUMMARY**

This chapter uncovered various dimensions of knowledge management derived from the 18 interviews. This chapter began by categorising knowledge into explicit, tacit, organisational, personal and craft forms. This was followed by a presentation of the findings in the diverse channels through which organisations acquire knowledge, emphasising the significance of both internal and external sources in expanding an organisation's knowledge base. Central to our discussion was the recognition of knowledge as a strategic asset.

The pivotal role of technologies in facilitating knowledge management became evident. The participants highlighted that various tools and systems are essential for storing, sharing, and accessing knowledge effectively. The retention of knowledgeable staff members emerged as a critical consideration, as skills development providers want to ensure the continuity of their knowledge base. Incentives and rewards were identified as powerful motivators for individuals to actively participate in knowledge-sharing initiatives, fostering a culture of collaboration and knowledge dissemination. The dynamics of knowledge sharing within organisations were explored.

The significance of continuous learning and development within organisations was emphasised. It is imperative for success to provide employees with the necessary skills and knowledge to contribute to the success of knowledge management initiatives. Trust within an organisation was identified as fundamental to foster transparent and fruitful employee engagement. Lastly, this chapter highlighted the common barriers and challenges that organisations face when implementing knowledge management. These obstacles range from technological, lack of skilled staff, lack of management support, limitations, to policy ambiguities. The next chapter will present the proposed framework for the implementation of knowledge management within skills development providers.

## CHAPTER 7

### PROPOSED FRAMEWORK FOR THE IMPLEMENTATION OF KNOWLEDGE MANAGEMENT

#### 7.1. CHAPTER OVERVIEW

In this chapter, the outcomes derived from the convergent parallel mixed method were outlined, which combines quantitative data collection and qualitative data gathering. The focus is on presenting the research findings and demonstrating how they mutually reinforce each other. The structure of this section aligns with the research objectives of the current study. Finally, we introduce the suggested framework for implementing knowledge management within skills development providers.

#### 7.2. KNOWLEDGE MANAGEMENT PROCESSES

The initial aim of the research was to assess the knowledge management processes, including creation, capturing, retention, and sharing, within skills development providers. In achieving the objective, it was revealed from the quantitative data results that the overall majority (50%) of the respondents *agreed*, meaning 35% *agreed* and 15% *strongly agreed* that knowledge management processes (creation, capturing, storing, and sharing) are practiced within the skills development providers. The knowledge management processes revealed a notable prevalence within the SDPs. Despite the absence of a structured framework or methodology for knowledge management activities at skills development providers, it is noteworthy that these processes are indeed implemented.

In support of the above statement, the qualitative data analysis highlighted the sources of knowledge acquisition that are critical in the KM processes. The recognised sources included formal training and skills analysis; internet and external partnerships; seminars and workshops; meetings; employee knowledge sharing; and research. This highlights the observation that SDPs possess the capability to gather information from diverse sources, thereby augmenting the efficacy and efficiency of their operations related to skills development. In order to significantly contribute to the generation and preservation of new information, it is crucial for employees to possess an in-depth comprehension of the importance associated with knowledge management processes. This understanding encompasses the methods through which knowledge is acquired and then stored for future use. The sharing of this knowledge is essential to promote the effective execution of the task at hand.

### 7.3. KNOWLEDGE MANAGEMENT ENABLERS

The study's second objective involved evaluating the factors facilitating knowledge management (specifically leadership, culture, technology, and strategy) within skills development providers.

Towards the achievement of this research objective, the quantitative results indicated that the overall majority (53%) of the respondents were in *agreement*, meaning 33% *agreed* and 21% *strongly agreed* that knowledge management leadership does exist within the skills development providers. These quantitative results place an emphasis on the fact that the workers demonstrated appreciation for and recognition of management's ability to effectively lead in the realm of knowledge management.

In the analysis of qualitative data, the focus on KM leadership revolves around acknowledging and appreciating knowledge as a strategic asset. This includes consideration of policies and incentives that contribute to supporting KM. The qualitative findings emphasise the acknowledged importance of leadership recognising knowledge as a strategic asset within the skills development industry. However, on the concept of rewards and incentives to support the implementation of KM within SDPs, it is essential to acknowledge that SDPs do not have a specific policy on providing rewards or incentives for promoting knowledge management. However, several SDPs adopt different methods to incentivise their staff to engage in knowledge management actively.

In terms of KM culture, the quantitative data presented that it is evident that a significant proportion of respondents (68%) *agreed*, meaning 35% *agreed* and 28% *strongly agreed* that knowledge management culture is evident within the skills development providers through the trust and willingness to share knowledge. The qualitative findings illustrate the KM culture within the SDPs, which is facilitated through knowledge sharing. The culture of knowledge sharing is of paramount importance for the overall performance and achievement of organisational objectives.

Moreover, the practice of knowledge sharing is a key and indispensable component of organisational operations. The results indicated that the SDPs have utilised the following areas to enhance the culture of knowledge sharing: regular meetings with managers; sharing information through meetings and workshops; staff training; the use of communication channels; and readily available knowledge at all times for internal and external stakeholders.

Part of KM culture was centred on trust and openness within the SDPs. The fundamental qualities linked to trust and openness in the SDPs were also considered crucial to the organisation.

Regarding KM technology, the quantitative findings presented that the overall majority (66%) of the respondents agreed, meaning 38% *agreed* and 28% *strongly agreed* that knowledge management technology is available within the SDPs. Backing the aforementioned assertion, the qualitative findings substantiate the utilization of various technologies within SDPs to enhance knowledge management processes. The key role of information and communication technology in KM processes within the skills development industry cannot be overstated. The identified ICT tools that contribute to supporting KM processes encompass cloud storage, online meetings, QMS and LMIS, remote data backup capabilities, and the use of instant messaging applications for communication and knowledge exchange.

#### **7.4. KNOWLEDGE MANAGEMENT SYSTEMS/ TOOLS**

The study's third objective involved evaluating KM systems in skills development providers.

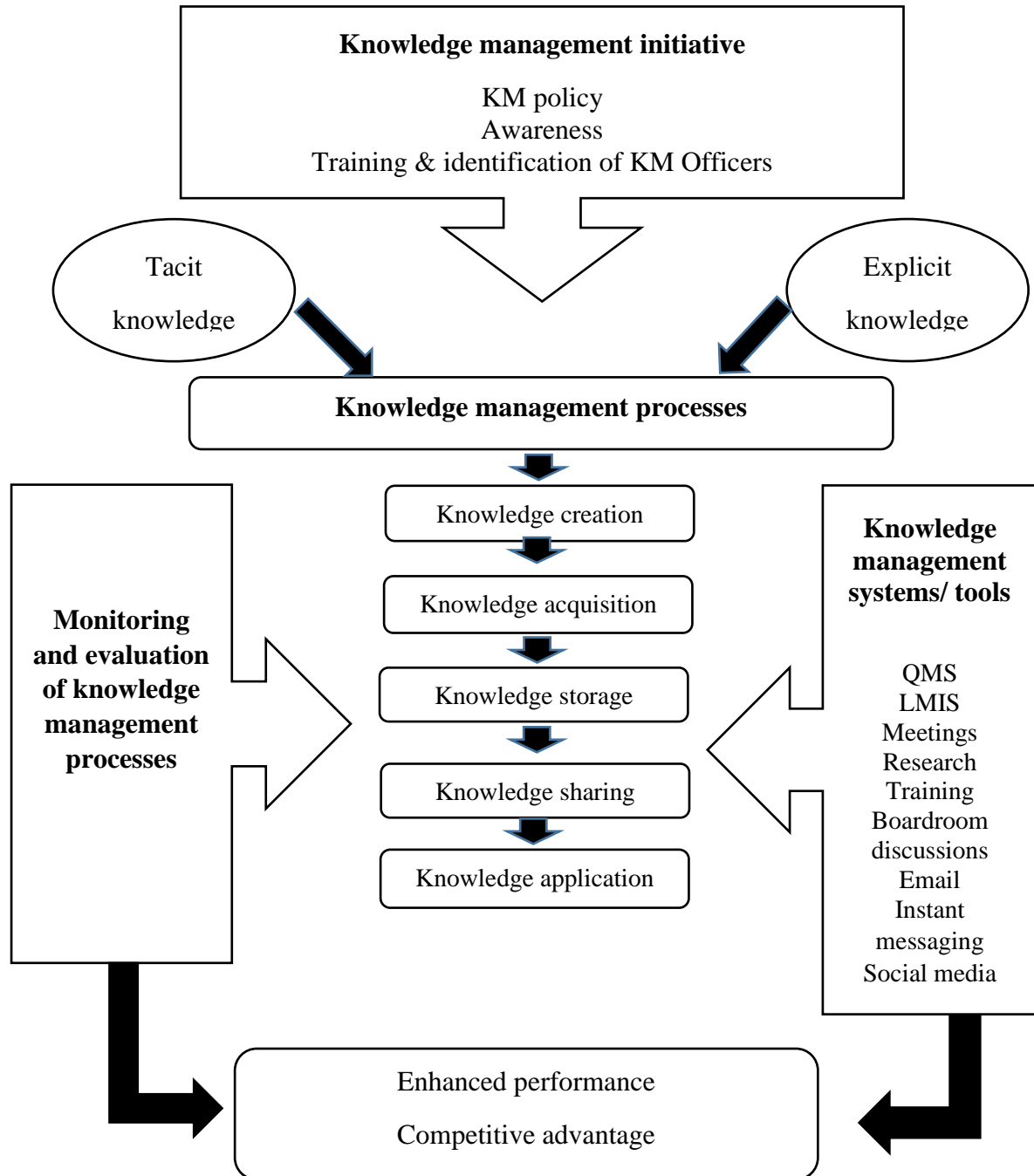
Regarding the KM systems/tools, the quantitative findings revealed that the overall majority (67%) of the respondents agreed, meaning 37% *agreed* and 30% *strongly agreed* that the system tools that facilitate knowledge management are used within the skills development providers. The workers of the SDPs recognised the significant importance of system tools in facilitating knowledge management. It is worth noting that these tools are well recognised and regularly used by employees within individual and job-related contexts. These systems or tools play a crucial role in aiding the company in generating, acquiring, retaining, disseminating, and applying knowledge.

In support of the above findings, the qualitative data results stated the systems/tools that are preferred by the SDPs in pursuit of the implementation of knowledge management. This emphasised some of the systems/tools that were chosen by the respondents in the questionnaire. The following were identified by the participants: workshops, monitoring and evaluation, morning briefings, suggestion boxes, knowledge sharing through videos and training.

## **7.5. PROPOSED FRAMEWORK FOR THE IMPLEMENTATION OF KNOWLEDGE MANAGEMENT WITHIN THE SKILLS DEVELOPMENT PROVIDERS**

In this section of the study, the envisaged proposed framework for the implementation of KM within skills development providers is introduced. The formulation of this framework methodically considers essential elements recognised from both quantitative and qualitative data findings. The essential constituents of the framework encompass knowledge management initiatives, processes, and tools/systems for knowledge management, inclusive of sub-elements. The proposed framework is depicted in Figure 7.1.

**Figure 7.1: A framework for the implementation of knowledge management within skills development providers**



Source: Own creation 2023

The framework for the implementation of knowledge management within skills development providers is founded on the following main components derived from the literature review: data analysis and interpretation of both quantitative and qualitative methods.

### **7.5.1. Knowledge management initiative**

#### **7.5.1.1. *KM policy***

For KM to be practised within the skills development providers, it is critical to have a regulating document in the form of a knowledge management policy. This document will function as a guiding framework for implementing KM. A policy document provides management with a strategic advantage in carrying out responsibilities and ensuring accountability. In this case, KM leadership will be based on the implementation of the KM policy. This will encompass the safeguarding of information confidentiality and non-disclosure, along with compliance with the stipulations outlined in the Protection of Personal Information Act. Incentives and rewards for the effective implementation of KM could also be articulated, as a way of motivation.

#### **7.5.1.2. *KM awareness***

Following the effective formulation and integration of the KM policy, it is essential to conduct an awareness campaign highlighting the significance of KM within the organisation. This initiative aims to enlighten employees and cultivate a conducive environment for the implementation of knowledge management. Integration of KM awareness into the induction programs for new hires is recommended. Additionally, for existing employees, periodic refresher training sessions can be organised as deemed necessary.

#### **7.5.1.3. *KM training***

When everyone is conversant with the concept KM through the awareness programmes in the SDPs, it will be critical to conduct training sessions on knowledge management and its implementation. The level of training should be pitched at the level that will enable everyone involved in the training to understand knowledge management. The training will highlight aspects such as KM processes to be executed, systems or tools to be utilised and the drivers of KM to be adopted in the organisation. Another aspect for consideration is the identification of process owners to drive the implementation of KM. However, every employee in the organisation will be tasked with the role of knowledge management within their different scope of work. Lastly, the training will assist in identifying knowledge management officer(s) to facilitate and control KM processes.

## **7.5.2. Knowledge management processes**

In this framework, the exploitation of KM processes is intended for the cultivation of both tacit and explicit knowledge within the organisation. The effectiveness of knowledge management processes relies on the incorporation of KM systems and tools for generating knowledge, acquiring knowledge from internal or external sources, preserving and disseminating organisational knowledge, and applying it in the operational aspects of the enterprise.

### **7.5.2.1. Knowledge creation**

Knowledge creation will take place internally and externally. With the use of relevant KM systems/tools, it will be possible and effective for knowledge to be created. This process must focus on creating knowledge that is relevant and beneficial to the SDPs.

### **7.5.2.2. Knowledge acquisition**

This process of knowledge acquisition will be facilitated through research initiatives and stakeholder engagement with regulatory institutions within the skills development sector. The SDPs must have a good networking capability inclusive of the collaboration approach. Moreover, all the employees should be aware of external developments affecting their organisation and communicate these with the management and other staff members.

### **7.5.2.3. Knowledge storage**

The primary focus of knowledge storage involves the secure preservation and upkeep of both generated and acquired knowledge. Consequently, the establishment of a centralised system becomes imperative for the proper storage of knowledge. This system should be organised in a manner that facilitates convenient access to knowledge for all members within the organisation.

### **7.5.2.4. Knowledge sharing**

This process involves the distribution of information across the organisation. After knowledge is generated or obtained, it must be appropriately stored and upheld to facilitate the sharing of knowledge within the organisation.

#### **7.5.2.5. *Knowledge application***

The available knowledge in the organisation must be utilised in its operations for the purpose of being effective and efficient. This process entails the ongoing application of knowledge that can be executed internally or externally. The knowledge stored in the organisation will be accessed for it to be applied.

#### **7.5.3. *Knowledge management system/tools***

The KM system/tools identified in the figure will be utilised randomly in any of the KM processes. The creation or acquisition of knowledge can be achieved through meetings or trainings. Therefore, the created or acquired knowledge will be stored in a computerised system for daily or future referrals. Furthermore, the system or tools should enable knowledge sharing with everyone in the organisation through meetings, e-mails and operational manuals. These tools are essential for the effective execution of knowledge management initiatives.

#### **7.5.4. *Monitoring and evaluation of KM processes***

This last component of the framework will be conducted on a regular basis to oversee, evaluate and maintain the implementation of KM. This will help in sustaining the standards pertaining to knowledge management in the organisation. This role will be performed by the management of the SDPs in order to demonstrate KM leadership and offer support to the employees.

#### **7.5.5 *Enhanced performance and competitive advantage***

The augmentation of organisational performance and the attainment of a competitive advantage can be realised through the meticulous implementation of the proposed framework for knowledge management within the skills development providers, as it systematically integrates and leverages organisational knowledge, fostering a dynamic environment that cultivates continuous learning, innovation, and the efficient utilisation of intellectual assets. This strategic approach not only enhances the overall proficiency of skills development processes but also positions the organisation strategically in the market by harnessing a reservoir of collective intelligence, thereby ensuring sustained growth and a distinctive edge in the ever-evolving landscape of education and training.

## **7.6. CHAPTER SUMMARY**

In this section, the data analyses derived from the preceding chapters, focusing on the discoveries and interpretations of the results, were explained. The incorporation of both research methodologies in this investigation was expanded upon, aiming to illustrate the mutually reinforcing nature of these approaches in uncovering findings. The forthcoming chapter will present conclusions, recommendations, and potential avenues for future research.

## CHAPTER 8

### CONCLUSIONS, RECOMMENDATIONS AND FUTURE RESEARCH

#### 8.1. CHAPTER OVERVIEW

The preceding chapter described the proposed framework designed for the implementation of knowledge management within skills development providers. This part of the investigation outlines the conclusions and recommendations derived from the research findings. The conclusions and recommendations align with the specified research objectives of the ongoing study, namely: (i) the evaluation of knowledge management processes encompassing creation, capturing, retention, and sharing; (ii) the assessment of knowledge management enablers such as leadership, culture, technology, and strategy; (iii) the analysis of knowledge management systems and their impact; and lastly, (iv) the formulation of a framework for implementing knowledge management within skills development entities. Concluding the discussion, potential avenues for future research were also elucidated.

#### 8.2. RESEARCH QUESTION RESOLUTIONS

The primary research question that guided this study was derived from the main question: Is there a framework for the implementation of knowledge management within skills development providers? To investigate into this research question, the investigation examined the subsequent sub-research questions:

Research question 1: *What are the KM processes within skills development providers?*

In the third chapter of the literature review, an examination and discussion took place regarding the knowledge management processes crucial for the effective implementation of knowledge management. These processes are critical in executing knowledge creation, acquisition, storage, sharing, and application, playing a vital role in the overall implementation of knowledge management. Additionally, Chapter 5 of the study highlighted the presence and significance of these knowledge management processes within skills development providers. The study's findings emphasised that all knowledge management processes are not only present but actively integrated into the operations of skills development providers. These insights, derived from both the literature review and the research findings, contribute to addressing the research question posed earlier.

Research question 2: ***What are the KM enablers within skills development providers?***

In Chapter 3 of the literature review, knowledge management enablers or critical success factors (CSFs) were presented and discussed. These KM enablers or CSFs included leadership, culture, technology and strategy, for consideration in the implementation of knowledge management within the skills development providers. These factors are regarded to be the core essentials in the implementation of KM within the SDPs. From the findings in Chapter 5, it is revealed that leadership was identified as the main enabler of KM, followed by technology. Culture and strategy were chosen as the last enablers in the implementation of KM within SDPs. The research question was addressed by the literature review and the findings.

Research question 3: ***What are the KM systems or tools at the skills development providers?***

In Chapter 3 of the literature review, the focus was on explaining the knowledge management systems or tools employed in the execution of knowledge management. These systems or tools play a crucial role in aiding knowledge management within SDPs, particularly influencing skills development in various ways such as knowledge creation, acquisition, storage, sharing, and application. Chapter 5 of the findings acknowledges the substantial value and contribution of these systems or tools in facilitating the successful implementation of knowledge management within SDPs. The investigation identified specific systems or tools deemed significant in the context of SDPs, including training and support (online learning), online meetings, messaging, and boardroom discussions. Both the literature review and the findings effectively addressed the research question under consideration.

Research question 4: ***What framework for the implementation of knowledge management within skills development providers can be developed?***

Drawing upon the review of existing literature and the results obtained from this investigation, a framework for the implementation of knowledge management within skills development providers was developed. The proposed framework took into consideration the following key components for the successful implementation, KM initiatives (policy, awareness, training and identification of officers), KM processes, KM systems or tools and monitoring and evaluation of KM processes. Lastly, the enhanced performance and competitive advantaged would be achieved from the successful implementation of the framework. The proposed framework addresses the research question under study.

### **8.3. CONCLUSIONS ON KNOWLEDGE MANAGEMENT PROCESSES**

The results indicated that SDP employees demonstrated an understanding and recognition of knowledge concepts. Additionally, they exhibited various forms of knowledge beyond the well-known tacit and explicit types. The essential functions of SDPs revolved around key knowledge management processes, namely knowledge creation, acquisition, and sharing through skills training, development, and research. Despite the presence of knowledge management processes in skills development providers, the execution of these processes was disorganised, attributed to the absence of a structured framework for the implementation of knowledge management. There is trust among the employee and they are willing to collaborate and share knowledge within the organisation. It was highlighted that it is challenging to retain expert knowledge in the skills sector, since most of the employees are employed on contractual bases. However, knowledge in the organisation is easily accessible by the employees to assist in the skills development operations.

The research findings indicate that while KM processes and practices are present in the SDPs, there is a requirement to establish a culture characterised by trust, openness, willingness, and cooperation to enhance its effectiveness. The SDPs should contemplate implementing improvements and establishing procedures that promote and bolster informal interactions between employees and management. This could entail establishing a workplace conducive to employees' capacity for knowledge creation and acquisition, as well as promoting the sharing and utilisation of knowledge to enhance organisational performance.

### **8.4. CONCLUSIONS ON KNOWLEDGE MANAGEMENT ENABLERS**

The enablers for knowledge management encompassed leadership, culture, technology, and strategy. Section 5.5.2 in the findings of Chapter 5, focusing on knowledge management leadership, clarified that employees within the SDPs acknowledge and appreciate the leadership qualities demonstrated by their managers. Knowledge management leadership pertains to the involvement of leaders and managers in fostering the knowledge management processes within the organisation. This implies that the management of SDPs do have leadership capability towards knowledge management processes within their organisation, and the employees have faith and confidence in them.

A culture in which individuals engage in exchanging knowledge and ideas within the organisation is a crucial condition for knowledge management. Section 5.5.2 revealed that KM

culture is evident in the skills development providers. This concept was based on trust to share knowledge among the employees within the organisation. Furthermore, KM culture emphasised a commitment to collaboration and the sharing of knowledge throughout the entire organisation. The following were also identified under the KM culture by the employees: transparency, a conducive work environment, teamwork, and employee collaboration.

It was emphasised how important technology is to SDPs' knowledge management processes. The explanation was emphasised concerning the storage, accessibility, and dissemination of knowledge, along with the associated challenges and opportunities. The findings present how the following ICT aspects are used to facilitate KM in the SDPs: the use of cloud storage for safekeeping of organisational records; quality management systems (QMS) and learner management information systems (LMIS) through laptops; and the application of communication channels for the purpose of exchanging information and fostering knowledge dissemination. Knowledge management activities depend heavily on technology. The successful and efficient deployment of KM is made possible by technology.

#### **8.5. CONCLUSIONS ON KNOWLEDGE MANAGEMENT SYSTEMS/TOOLS**

The findings presented that within SDPs there are systems or tools used to facilitate knowledge management. The following systems are considered as central systems or tools utilised in the SDPs: Online meetings, messaging and boardroom discussions; training and support (online learning); documents management; user manuals; photos and or videos management. These highlight a variety of systems adopted within the skills sector by the SDPs. However, it is important for SDPs to make use of other systems to facilitate the implementation of KM. It must emphasise that the systems or tools are there to simplify the effectiveness of KM processes.

#### **8.6. CONCLUSIONS ON THE DEVELOPED FRAMEWORK**

After reviewing various frameworks and models discussed in the literature in Chapter 3 of this research, it can be deduced that adopting the framework designed for implementing KM within skills development providers will enhance the practice of knowledge management. This enhancement will be achieved by ensuring that knowledge is generated, acquired, stored, shared, and effectively applied in the operational processes of the organisation. This framework will aid in enhancing the performance and allowing the SDPs to achieve competitive advantage

within the skills development sector. The main components must be given due diligence in terms of how they are connected to each other for the successful implementation in the SDPs.

## **8.7. RECOMMENDATIONS**

This study recommends the following aspects to be given attention by knowledge management scholars and skills development providers.

### **8.7.1. Recommendations on knowledge management processes**

The results promote the adoption of organised processes for acquiring knowledge, along with the incorporation of incentives and recognition to foster the generation and dissemination of knowledge. The research also proposes that SDPs employ strategies for retaining tacit knowledge from seasoned employees before their departure from the organisation. The study revealed that skills providers employ methods for storing knowledge, ensuring that all team members have access to the created and acquired knowledge, facilitating teamwork and idea sharing.

The study suggests that managers at skill development organisations acknowledge the worth of their employee expertise and the entire body of knowledge possessed by the organisation, to actively and transparently oversee the various processes associated with knowledge management. Furthermore, the absence of a KM policy, KM officers and training of KM were determined within the skill development providers. The researcher suggests that the policy guidelines should be established by the skills development provers to direct KM activities to promote efficacy towards implementing KM. Additionally, employees should be made aware of the phenomenon knowledge management and be provided the opportunity to understand the value of this concept through training. The findings propose that achieving effective knowledge management practices within SDPs necessitates the establishment of a thorough framework for the implementation of KM. The focal point of this framework should prioritise KM initiatives in its initial phase, subsequently incorporating KM processes, systems, and tools.

### **8.7.2. Recommendations on knowledge management enablers**

It is advisable for the leadership to convey the importance of KM, for organisational performance and offer encouragement and guidance to every person in the company. Given that the leadership is aware of knowledge's critical role, they still need to make substantial investments in knowledge management at the providers of skills development. The leadership

must encourage this effort by making available the necessary resources and motivation in the form of rewards and recognition that inspire employees to embark on knowledge creation and sharing.

To effectively implementation of the framework for KM, it is important to have a conducive work environment that is prevailing with coherent culture. A strong KM culture would enable the employees to trust each other and be open towards each other on the knowledge sharing process. Furthermore, a robust KM culture allows employees to collaborate and cooperate in KM processes. It is recommended that culture is a critical element in knowledge management processes.

This study further suggests and emphasises the essential role played by technology in KM processes. The use of technology enhances the efficiency and efficacy of knowledge management processes within the organisation. It is essential that SDPs invest in the latest technology resources, through upgrading access to internet connectivity and furnishing workstations with sufficient, reliable PCs. The employees need to be instructed on the use of technologies to get the most out of them and be competitive in the skills sector. It is recommended that the technology resources should be flexible and portable for the employees to utilise in their functions.

### **8.7.3. Recommendations on knowledge management systems/ tools**

As revealed from the study, employees can collaborate and share knowledge in the SDPs. The study suggests using multifaceted and collaborative systems or tools, including social media sites, instant messaging programmes, subscription with relevant bodies, photos, and video management to make the accessing and sharing of knowledge easier. Additionally, since quality management systems (QMS) were emphasised in the findings, it is appropriate to incorporate knowledge management into the QMS.

### **8.7.4. Recommendations on developed framework**

Based on the examination of the results presented in Chapters 5 and 6, this research suggests a framework for integrating knowledge management into organisations that focus on skills development. This framework is applicable to both practitioners in skills development and scholars engaged in the study of knowledge management. The research emphasises the significance of possessing knowledge and comprehension of knowledge management

initiatives, processes, and tools for the successful implementation of knowledge management practices.

#### **8.7.5. Recommendations for further research**

The investigation centered on knowledge management within South African skills development providers. It proposed a study utilising a theoretical framework and hypotheses to examine the relationship among knowledge management variables. Recommendations for future research include investigating into KM within the skills development sector, exploring the use of ICT in knowledge management processes, investigating knowledge management leadership and culture in SDPs, examining knowledge management policy and awareness in organisations, and exploring knowledge management monitoring and evaluation. Additionally, it is suggested to conduct further research on knowledge management within SETAs and TVET colleges.

### **8.8 CONTRIBUTION OF THE STUDY**

The study on developing a framework for the implementation of knowledge management within skills development providers makes a significant contribution to the academic and professional landscape. The uniqueness of this research lies in its comprehensive approach, focusing on three crucial elements: knowledge management initiative, knowledge management processes, and knowledge management systems/tools. By addressing these components, the framework provides a holistic perspective that guides skills development providers in effectively managing their intellectual capital. The emphasis on a knowledge management initiative highlights the importance of a strategic approach, aligning organisational goals with knowledge management objectives. Furthermore, the exploration of knowledge management processes investigates into the operational aspects, explaining how information is created, captured, and shared within the organisation. The inclusion of knowledge management systems and tools further enhances the practical applicability of the framework, offering insights into the technological infrastructure necessary for successful implementation. In essence, this study not only fills a gap in the existing literature but also offers a valuable tool for practitioners seeking to enhance knowledge management within the context of skills development providers.

## **8.9. LIMITATIONS OF THE STUDY**

This study developed a framework for the implementation of knowledge management within skills development providers. All the considerations from the literature review and findings were aimed at the development of a framework. The research did not employ a conceptual framework and hypothesis to examine the correlation among the identified variables. Additionally, the scope of the study excluded TVET colleges, universities, and SETAs, focusing on a specific niche area. The inclusion of such institutions would have made the study too broad. An additional constraint pertains to the fact that the study exclusively focused on accredited SDPs located within the North West Province of South Africa. Consequently, the outcomes derived from this research lack generalisability to SDPs situated in different provinces. Other SDPs did not want to be part of the study fearing knowledge espionage.

## **8.10. MANAGERIAL IMPLICATIONS**

The findings of this research highlight the absence of organised approaches, such as a framework, for implementing knowledge management within skills development providers. In response to this, the suggested framework possesses the capability to transform the operational practices of organisations within this sector. The managerial implications of this study are far-reaching and offer valuable insights for leaders and decision-makers. Managers should align their KM strategies with the overall organisational strategy. It is essential to integrate KM as a core component, emphasising how it supports and enhances the primary goals and objectives. Owners or managers of the SDPs play a pivotal role in driving this transformation. They must embrace a proactive and holistic approach to KM, encompassing leadership, technology culture, and continuous improvement. By doing so, they can ensure that their organisations are well positioned to thrive in the ever-evolving skills development landscape. To the skills development regulating bodies such as the SETAs, the framework could be used as a yardstick in the accreditation and regulation of the SDPs to enhance organisational competitiveness, innovation, and efficiency.

## **8.11. CONCLUSION**

The primary object of this research was to develop a framework for the implementation of knowledge management within skills development providers. To fulfil this aim, an in-depth examination of fundamental concepts pertinent to the study was undertaken through a comprehensive literature review. This review centred on key elements such as skills

development, skills development providers (SDPs), knowledge, knowledge management, and encompassed the foundational theories of knowledge-based-view (KBV) and resource-based-view (RBV). The purpose of this literature review was to provide direction and elucidation, offering insights into the crucial aspects to be taken into account in crafting the framework.

Moreover, in order to achieve the research objective, a convergent parallel mixed-method approach was employed to respond to the research question. Data analyses for both research methodologies, quantitative (questionnaire) and qualitative (interview), were conducted with a focus on presenting the findings for this study. The findings highlighted that an aspect for consideration is the development of a framework for the implementation of knowledge management. With the incorporation of a literature review, the following key features were identified for the framework: the knowledge management initiative, which consisted of KM policy, awareness and training. The second feature for the framework is KM processes based on the creation, acquisition, storing, sharing and application of knowledge within SDPs. Additionally, the KM systems/tools were emphasised as part of the framework. Thirdly, the feature of KM monitoring and evaluation was included in the framework for the purpose of controlling and evaluating the KM processes. In conclusion, there is a need for forthcoming studies to explore additional aspects of knowledge management within institutions focused on skills development.

## REFERENCES

- Abbas, J. & Sağsan, M. 2019. Impact of knowledge management practices on green innovation and corporate sustainable development: A structural analysis. *Journal of cleaner production*, 229, pp.611-620.
- Abdelrahman, M.M. 2013. Knowledge sharing by using knowledge management systems to support decision-making processes in multinational corporations. [Doctoral dissertation]. Manchester: University of Manchester.
- Abdolshaha, M. & Abdolshahb, S. 2011. Barriers to the implementation of knowledge Information Impact. *International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies*, 2(2), pp.173-182.
- Abdullah, R., Selamat, M.H., Sahibudin, S. & Alias, R.A. 2005. A framework for knowledge management system implementation in collaborative environment for higher learning institution. *Journal of Knowledge Management Practice*, 6(1), pp.1-8.
- Abualoush, S., Masa'deh, R.E., Bataineh, K. & Alrowwad, A. 2018. The role of knowledge management process and intellectual capital as intermediary variables between knowledge management infrastructure and organisation performance. *Interdisciplinary Journal of Information, Knowledge, and Management*, 13, pp.279-309.
- Abubakar, A.M., Elrehail, H., Alatailat, M.A. & Elçi, A. 2019. Knowledge management, decision-making style and organisational performance. *Journal of Innovation & Knowledge*, 4(2), pp.104-114.
- Abusharekh, N.H., Ahmad, H.R., Arqawi, S.M., Abu-Naser, S.S. & Al Shobaki, M.J. 2019. Knowledge management processes and their role in achieving competitive advantage at Al-Quds open university. *International Journal of Academic Accounting, Finance & Management Research (IJAAFMR)*, 3(9), pp.1-18.
- Adhikari, D.R. 2010. "Knowledge management in academic institutions", *International Journal of Educational Management*, 22(2), pp.94-104.
- African Development Bank Group. 2011. Chapter 5: Human Capital and Skills Development. *African Development Report*, pp.100-121.

Aguinis, H. & Kraiger, K. 2009. Benefits of training and development for individuals and teams, organizations, and society. *Annual review of psychology*, 60, pp.451-474.

Ahmad, F. & Karim, M. 2019. Impacts of knowledge sharing: a review and directions for future research. *Journal of workplace learning*, 31(3), pp.207-230.

Ahmad, H.S. & An, M. 2008. Knowledge management implementation in construction projects: a KM model for Knowledge Creation, Collection and Updating (KCCU). *International Journal of Project Organisation and Management*, 1(2), pp.133-166.

Ahmad, H.S.M. 2011. *Development of KM model for knowledge management implementation and application in construction projects* [Doctoral dissertation]. Birmingham: University of Birmingham.

Ahmady, G.A., Nikooravesh, A. & Mehrpour, M. 2016. Effect of organizational culture on knowledge management based on Denison model. *Procedia-Social and Behavioral Sciences*, 230, pp.387-395.

Aigbavboa, C., Oke, A.E. & Mokasha, M. D. 2016. Implementation of skill development act in the South African construction industry. *Socioeconomica – The Scientific Journal for Theory and Practice of Socio-economic Development*, 5(9), pp.53-64.

Akhtar, D.M.I. 2016. *Research design. Research in social sciences: Interdisciplinary perspectives*, 68-84.

Akinyode, B.F. & Khan, T.H. 2018. Step by step approach for qualitative data analysis. *International Journal of Built Environment and Sustainability*, 5(3), pp.163-174.

Akram, M.S., Goraya, M., Malik, A. & Aljarallah, A.M. 2018. Organizational performance and sustainability: exploring the roles of IT capabilities and knowledge management capabilities. *Sustainability*, 10(10), pp.1-20.

Al Ahababi, S.A., Singh, S.K., Balasubramanian, S. & Gaur, S.S. 2019. Employee perception of impact of knowledge management processes on public sector performance. *Journal of Knowledge Management*. 23(2), pp.351-373. ISSN 1367-3270 (doi:10.1108/jkm-08-2017-0348).

Al Amiri, N., Rahima, R.E.A. & Ahmed, G. 2020. Leadership styles and organizational knowledge management activities: A systematic review. *Gadjah Mada International Journal of Business*, 22(3), pp.250-275.

Al-Ababneh, M.M., 2020. Linking ontology, epistemology and research methodology. *Science & Philosophy*, 8(1), pp.75-91.

Alavi, M. & Leidner, D. E. 2001. Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues. *MIS Quarterly*, 25(1), pp.107-136.

Alavi, M. & Leidner, D.E. 1999. Knowledge management systems: issues, challenges, and benefits, *Communications of the Association for Information System*, 1(7), pp.1-38.

Alavi, M. & Leidner, D.E. 2001. Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues. *MIS Quarterly*, 25(1), pp.107-136.

Alegbeleye, B. 2010. Old wine in new bottle: A critical analysis of the relationship between knowledge and library and information science. Paper presented at the 48th National Conference of the Nigeria Library Association, Abuja.

Ali, A.A., Paris, L. & Gunasekaran, A. 2019. Key factors influencing knowledge sharing practices and its relationship with organisational performance within the oil and gas industry. *Journal of Knowledge Management*, 23(9), pp.1806-1837.

Alise, M. A., & Teddlie, C. 2010. A continuation of the paradigm wars? Prevalence rates of methodological approaches across the social/behavioral sciences. *Journal of Mixed Methods Research*, 4(2), pp.103-126.

Alksasbeh, M.Z., Al-Dala, A.A.H. & Alqaraleh, B.A. 2018. Factors that Influence the Success of Knowledge Management Implementation in Jordanian Higher Education Institutions. *Research Journal of Applied Sciences, Engineering and Technology*, 15(7), pp.249-260.

Allais, S. 2012. Will skills save us? Rethinking the relationships between vocational education, skills development policies, and social policy in South Africa. *International Journal of Educational Development*, 32(5), pp.632-642.

- Almahamid, S.M. & Qasrawi, S.T. 2017. The impact of TQM practices and KM processes on organisational performance: An empirical investigation. *International Journal of Quality & Reliability Management*, 34, pp.1034-1055.
- Amin, S., Usman, M., Sohail, N. & Aslam, S. 2018. Relationship between intellectual capital and financial performance: The moderating role of knowledge assets. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, 12(2), pp.521-547.
- An, X., Bai, W., Deng, H., Sun, S., Zhong, W. & Dong, Y. 2017. A knowledge management framework for effective integration of national archives resources in China. *Journal of Documentation*, 73(1), pp.1-17.
- Anderson, J.C. & Gerbing, D.W. 1988. Structural equation modeling in practice: A review and recommended two-step approach. *Psychological bulletin*, 103(3), p.411-423.
- Anikin, V. 2018. *Skills training and development: Russia in comparative perspective*. Doctoral. Dissertation. Essex: University of Essex.
- Anney, V.N. 2014. Ensuring the quality of the findings of qualitative research: Looking at trustworthiness criteria. *Journal of emerging trends in educational research and policy studies*, 5(2), pp.272-281.
- Ansari, M., Youshanlouei, H.R. & Mood, M.M. 2012. A Conceptual model for success in implementing knowledge management: A case study in Tehran municipality. *Journal of Service Science and Management*, 5, pp.212-222.
- Ansu, Y. & Tan, J. 2008. Skills Development for Economic Growth in Sub-Saharan Africa. World Bank, pp.1-30.
- Antunes, H.D.J.G. & Pinheiro, P.G. 2020. Linking knowledge management, organizational learning and memory. *Journal of Innovation & Knowledge*, 5(2), pp.140-149.
- Antwi, S.K. & Hamza, K. 2015. Qualitative and quantitative research paradigms in business research: A philosophical reflection. *European Journal of Business and Management*, 7(3), pp.217-225.
- Areed, S., Salloum, S.A. & Shaalan, K. 2021. The role of knowledge management processes for enhancing and supporting innovative organisations: a systematic review. *Recent Advances in Intelligent Systems and Smart Applications*, pp.143-161.

Ary, D., Jacobs, L.C., Sorensen, C. & Walker, D.A. 2013. *Introduction to research in education*. 9th ed. Belmont: Cengage Learning.

Asenahabi, B.M. 2019. Basics of Research Design: A Guide to selecting appropriate research design. *International Journal of Contemporary Applied Researches*, 6(5), pp.76-89.

Aspers, P. & Corte, U. 2019. What is qualitative in qualitative research. *Qualitative sociology*, 42, pp.139-160.

Asrar-ul-Haq, M. & Anwar, S. 2016. A systematic review of knowledge management and knowledge sharing: Trends, issues, and challenges. *Cogent Business & Management*, 3(1), pp.1-17.

Association for the Development of Education in Africa (ADEA). 2010. *Promoting critical knowledge, skills and qualifications for sustainable development in Africa. Technical Workshop in preparation of the 2011 Triennale*, Tunis.

Attia, A. & Salama, I. 2018. Knowledge management capability and supply chain management practices in the Saudi food industry. *Business Process Management Journal*. 24, pp.459-477.

Ayatollahi, H. & Zeraatkar, K. 2020. Factors influencing the success of knowledge management process in health care organisations: a literature review. *Health Information & Libraries Journal*, 37(2), pp.98-117.

Baah-Boateng, W. & Baffour-Awuah, D. 2015. Skills development for economic transformation in Ghana. *Accra: African Centre for Economic Transformation*, pp.1-18.

Babbie, E. & Mouton, J. 2004. *The practice of social research*. (4th ed.). Cape Town: Oxford University Press.

Babbie, E. & Mouton, J. 2010. *The practice of social research*. 10th edition. Cape Town: Oxford University Press.

Babbie, E.R. 2008. *The Practice of Social Research*. 12th ed. USA: Wadworth.

Barker, D. 2016. *Web content management: Systems, features, and best practices*. " O'Reilly Media, Inc."

Barney, J.B. & Arikan, A.M. 2005. The resource-based view: origins and implications. *The Blackwell handbook of strategic management*, pp.123-182.

- Barratt, M.J., Ferris, J.A. & Lenton, S. 2015. Hidden populations, online purposive sampling, and external validity: Taking off the blindfold. *Field methods*, 27(1), pp.3-21.
- Bartczak, S.E. 2012. Identifying barriers to knowledge management in the United States military [PhD dissertation]. Alabama: The Graduate Faculty of Auburn University.
- Bartik, Timothy J. & Kevin Hollenbeck. 2000. "The Role of Public Policy in Skills Development of Black Workers in the 21st Century." Upjohn Institute Working Paper No. 00-64. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research. <https://doi.org/10.17848/wp00-64>
- Baumgardt, J.2013. *Quality assurance challenges for private providers in post school education and training in South Africa*. [Doctoral thesis]. Pretoria: University of South Africa.
- Beijaard, D., Verloop, N. & Vermunt, J.D. 2000. Teachers' perceptions of professional identity: An exploratory study from a personal knowledge perspective. *Teaching and teacher education*, 16(7), pp.749-764.
- Bentz, S.A. 2015. The adoption of corporate governance by small and medium enterprises in City of Tshwane.
- Berek, J. 2017. The methods and the tools of managerial competence in modern organizations. *World Scientific News* 72, pp.52-60.
- Berman, S.L., Down, J. & Hill, C.W. 2002. Tacit knowledge as a source of competitive advantage in the National Basketball Association. *Academy of management Journal*, 45(1), pp.13-31.
- Bewick, V., Cheek, L. & Ball, J. 2004. Statistics review 9: one-way analysis of variance. *Critical care*, 8, pp.1-7.
- Bhardwaj, P. 2019. Types of sampling in research. *Journal of the Practice of Cardiovascular Sciences*, 5(3), pp.157-163.
- Bhattacharjee, A. 2012. *Social science research: principles, methods, and practices*. 2nd ed. Florida: USF Scholar Commons.
- Bhojaraju, G. 2005. Knowledge Management: Why do we need it for corporates. *Malaysian Journal of Library & Information Science*, 10(2), pp.37-50.

- Biesta, G. 2010. Pragmatism and the philosophical foundations of mixed methods research. In A. Tashakkori & C. Teddlie (Eds.), Sage handbook of mixed methods in social & behavioral research (2nd ed), pp 95-118).
- Bisschoff, T. & Govender, C. 2007. A management framework for training providers to improve workplace skills development. *Professional Accountant*, 7(1), pp.54-65.
- Bisschoff, T. & Govender, C.M. 2004. A management framework for training providers to improve skills development in the workplace. *South African Journal of Education*, 24(1), pp.70–79.
- Bitkowska, A. 2020. The relationship between Business Process Management and Knowledge Management-selected aspects from a study of companies in Poland. *Journal of entrepreneurship, management and innovation*, 16(1), pp.169-193.
- Bitsch, V. 2005 Qualitative Research: A Grounded Theory Example and Evaluation Criteria. *Journal of Agribusiness*, 23, pp.75-91.
- Blair, J., Czaja, R.F. & Blair, E.A. 2013. *Designing surveys: A guide to decisions and procedures*. SAGE publications.
- Bless, C. & Higson-Smith, C. 2000. *Fundamentals of social research methods: An African perspective*. Lansdowne: Juta.
- Boisot, M.H. & Child, J. 1999. Organisations as Adaptive Systems in Complex Environments: The Case of China, *Organisation Science*, 10(3), pp.237–252.
- Boisot, M.H. 1998, *Knowledge Assets: Securing Competitive Advantage in the Information Economy*, Oxford University Press.
- Boisot, M.H.; MacMillan, I.; Han, K.S.; Tan, C. & Eun, S.H. 2003. Verification and Partial Validation of the Sim-I-Space Simulation Model, Working Paper. [http://wep.wharton.upenn.edu/Research/SimISpace2\\_200311.pdf](http://wep.wharton.upenn.edu/Research/SimISpace2_200311.pdf)
- Bolarinwa, O.A., 2015. Principles and methods of validity and reliability testing of questionnaires used in social and health science researches. *Nigerian postgraduate medical journal*, 22(4), pp.195-201.

- Bolisani, E. & Bratianu, C. 2018. Emergent knowledge strategies: Strategic thinking in knowledge management, Springer, Cham.
- Bonett, D.G. & Wright, T.A. 2014. Cronbach's alpha reliability: Interval estimation, hypothesis testing, and sample size planning. *Journal of Organisational Behavior*, 36(1), pp.3-15.
- Borisova, O.V., Vashieva, D.G., Malykh, N.I., Vasnev, S.A. and Vasneva, N.N. 2016. Trends and challenges in development of continuing vocational education and training in Russia. *International Electronic Journal of Mathematics Education*, 12(1), pp.69-78.
- Borrego, M., Douglas, E.P. & Amelink, C.T. 2009. Quantitative, qualitative and mixed research methods in engineering education. *Journal of Engineering Education*, 98(1), pp.53-66.
- Boruett, H.C., Ronoh, A., Kisirikoi, F. & Dimba, M., 2021. Employees' Attitude and Implementation of Performance Appraisal System in the Ministry of Education in Nairobi City County, Kenya. *International journal of innovative research & development*. 10(4), pp.19-27.
- Botha, J., Kiley, J. & Truman, K. 2007. Practising education, training and development in South Africa organizations. Cape Town: Juta.
- Bounfour, A. 2003. *The management of intangibles. The organisation's most valuable assets*. London: Roudlege.
- Bratianu, C. 2015. *Organizational knowledge dynamics: Managing knowledge creation, acquisition, sharing, and transformation: Managing knowledge creation, acquisition, sharing, and transformation*. IGI Global.
- Brewer, L. 2013. Enhancing youth employability: What? Why? and How? Guide to core work skills / Laura Brewer; International Labour Office, Skills and Employability Department. - Geneva: ILO.
- Brewer, P.D. & Brewer, K.L. 2010. Knowledge management, human resource management, and higher education: A theoretical model. *Journal of Education for Business*, 85(6), pp 330-335.
- Bryman, A., 2017. Quantitative and qualitative research: further reflections on their integration. In *Mixing methods: Qualitative and quantitative research*. Routledge, pp.57-78.

- Burns, N & Grove, SK. 2009. *The practice of nursing research: appraisal, synthesis, and generation of evidence*. 6th edition. United States of America: Elsevier/Saunders.
- Burtless, G. 1995. The case for randomized field trials in economic and policy research. *Journal of economic perspectives*, 9(2), pp.63-84.
- Cameron, R., Dwyer, T., Richardson, S., Ahmed, E & Sukumaran, A. 2013. Lessons from the field: Applying the good reporting of a mixed methods study framework. *The Electronic Journal of Business Research Methods*, 11(2), pp.53-66.
- Canals, A.; Boisot, M.H. & MacMillan, I. 2004. Evolution of Knowledge Management Strategies in Organisational Populations: A Simulation Model, Working Paper Series WP04-007, Internet Interdisciplinary Institute (IN3), UOC.
- Cao, L. & Cao, L. 2018. Data Profession. *Data Science Thinking: The Next Scientific, Technological and Economic Revolution*, pp.293-327.
- Carcary, M. 2020. The research audit trail: Methodological guidance for application in practice. *Electronic Journal of Business Research Methods*, 18(2), pp.166-177.
- Cepeda-Carrion, I., Martelo-Landroguez, S., Leal-Rodríguez, A.L. & Leal-Millán, A. 2017. Critical processes of knowledge management: An approach toward the creation of customer value. *European Research on Management and Business Economics*, 23(1), pp.1-7.
- Chams, N. & García-Blandón, J. 2019. On the importance of sustainable human resource management for the adoption of sustainable development goals. *Resources, Conservation and Recycling*, 141, pp.109-122.
- Chandra, P. & Gupta, M.K. 2018. Comprehensive survey on data warehousing research. *International Journal of Information Technology*, 10, pp.217-224.
- Chang, C.L.H. & Lin, T.C. 2015. The role of organizational culture in the knowledge management process. *Journal of Knowledge management*, 19(3), pp.433-455.
- Charlse, W. & Nawe, J. 2017. Knowledge management (KM) practices in institutions of higher learning in Tanzania with reference to Mbeya University of Science and Technology. *University of Dar es Salaam Library Journal*, 12(1), pp.48-65.

- Cheng, E.C., Wu, S.W. & Hu, J. 2017. Knowledge management implementation in the school context: case studies on knowledge leadership, storytelling, and taxonomy. *Educational Research for Policy and Practice*, 16(2), pp.177-188.
- Chigbu, U.E. 2019. Visually hypothesising in scientific paper writing: Confirming and refuting qualitative research hypotheses using diagrams. *Publications*, 7(1), p.22.
- Chilisa, B. & Preece, J. 2005. African perspective in Adult learning :Research methods for adult educators. Hamburg, German: UNESCO Institute of Education.
- Chinomona, R. 2011. *Non-mediated channel powers and relationship quality: A case of SMEs in Zimbabwe channels of distribution* [Unpublished PhD thesis]. Taiwan: National Central University.
- Cho, J.Y. & Lee, E.H. 2014. Reducing confusion about grounded theory and qualitative content analysis: Similarities and differences. *Qualitative report*, 19(32), pp.1-20.
- Chong, S.C., Salleh, K., Ahmad, S.N.S. & Sharifuddin, S.S.O. 2011. KM implementation in a public sector accounting organization: An empirical investigation. *Journal of Knowledge Management*, 5(3), pp.497-512.
- Chua, A.Y. & Goh, D.H. 2008. Untying the knot of knowledge management measurement: a study of six public service agencies in Singapore. *Journal of Information Science*, 34(3), pp.259-274.
- Chugh, R. 2015. Do Australian Universities Encourage Tacit Knowledge Transfer?. In *KMIS*, 128-135).
- Cinque, M., 2016. "Lost in translation". Soft skills development in European countries. *Tuning Journal for Higher Education*, 3(2), pp.389-427.
- Coetzee, S. 2000. *A guide to the Skills Development Act and levies*. Durban: Butterworths.
- Cohen, A. & Golan, R. 2007. Predicting absenteeism and turnover intentions by past absenteeism and work attitudes: an empirical examination of female employees in the long term nursing care facilities. *International Journal of Career Development*, 12(5), pp.416-432.
- Cohen, L., Manion, L. & Morrison, K. 2011. Research methods in education. New York, NY: Routledge.

- Cohen, L., Manion, L. and Morrison, K. 2017. The ethics of educational and social research. In *Research methods in education*, pp.111-143. Routledge.
- Cohen, L., Manion, L., & Morrison, K. 2007. *Research methods in education* (6th ed.). New York, NY: Routledge.
- Cong, X. & Pandya, K.V. 2003. Issues of knowledge management in the public sector. *Electronic journal of knowledge management*, 1(2), pp.181-188.
- Cooper, C.P. 2018. Managing Tourism Knowledge: A Review Tourism Review. *Tourism Review*, 73(4), pp.507-520. ISSN 1660-5373 DOI: <https://doi.org/10.1108/TR-06-2017-0104>
- Cooper, D.R, Schindler, P.S. & Sun, J. 2003. *Business Research Methods*.
- Creswell, J. W. & Clark, V. L. 2011. *Designing and conducting mixed methods research*. 2nd ed. London: Sage Publication.
- Creswell, J.W. & Creswell, J.D. 2017. *Research design: qualitative, quantitative, and mixed methods approaches*. Los Angeles: Sage.
- Creswell, J.W. & Poth, C. 2017. *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks: Sage Publications.
- Creswell, J.W. 2003. *Research design: Qualitative, quantitative, and mixed methods approaches*. (2nd ed.) Thousand Oaks: Sage.
- Creswell, J.W. 2009. *Research design: qualitative, quantitative and mixed methods approaches*. 3rd ed. London: Sage.
- Creswell, J.W. 2014. *Research design: qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, California: SAGE Publications, Inc.
- Creswell, J.W. and Creswell, J.D., 2017. *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Cristea, D.S. & Căpațină, A. 2009. Perspectives on knowledge management models. The Annals of “Dunarea de Jos” University of Galati Fascicle I – 2009. Economics and Applied Informatics. Years XV – no 2 – 355-366.ISSN 1584-0409

Crotty, M. 1998. *The foundations of social research: Meaning and perspective in the research process*. Thousand Oaks, CA: Sage.

Cuéllar-Sánchez, D.M., Dueñas-Peña, A. & Palacios-Rozo, J.J. 2023. Linking ICT in knowledge management in organizations. *Russian Law Journal*, 11(3s), pp.420-427.

Cunningham, S., Theilacker, M., Gahan, P., Callan, V. and Rainnie, A. 2016. Skills and capabilities for Australian enterprise innovation. *Australian Council of Learned Academies (ACOLA)*, Australia.

D'Souza, A.P. 2018. *An Evaluation of Skill Development Programmes and its Impact on Employment and Self-Employment: a Study with Reference to State of Goa* [Doctoral dissertation]. Taleigão, India: Goa University.

Dale BG. 1999. *Managing Quality*. Blackwell: Oxford.

Dalkir, K. 2017. *Knowledge management in theory and practice*. MIT press.

Dammann, O. 2018. Data, information, evidence, and knowledge: a proposal for health informatics and data science. *Online journal of public health informatics*, 10(3).

Dang, Y. 2011. The effect of knowledge management on product innovation - Evidence from the Chinese software outsourcing vendors. *iBusiness*, 3, pp.16-22.

Dattalo, P. 2008. *Determining sample size: Balancing power, precision, and practicality*. Oxford University Press.

Dave, B. & Koskela, L. 2009. Collaborative knowledge management—A construction case study. *Automation in construction*, 18(7), pp.894-902.

Davenport, T. H. & Völpel, S. C. 2001. The rise of knowledge towards attention management. *Journal of Knowledge Management*, 5(3), pp.212–221.

Davenport, T.H. & Prusak, L. 1997. *Working Knowledge: How Organisations Manage What They Know*, Harvard Business School Press, Boston, MA, USA.

Davenport, T.H. & Prusak, L. 1998. “*Working Knowledge: How organizations manage what they know*”. Harvard Business School Press, Boston, MA, pp.44-50.

- Davenport, T.H. & Prusak, L. 2000, *Working Knowledge: How Organizations Manage What They Know*. MA: Harvard Business School Press.
- Davis, C.S., Gallardo, H.P. & Lachlan, K. 2012. *Straight talk about communication research methods*. 2nd ed. Dubuque: Kendall-Hunt Publishing.
- Dawadi, S., Shrestha, S. & Giri, R.A. 2021. Mixed-methods research: A discussion on its types, challenges, and criticisms. *Journal of Practical Studies in Education*, 2(2), pp.25-36.
- De Borba, D.A.R.C.I. & Chaves, M.S. 2021. An integrative analysis of knowledge management implementation frameworks: A proposed research agenda. *Revista Alcance*, 28(2), pp.258-277.
- De Leeuw, E.D., 2012. Choosing the method of data collection. In *International handbook of survey methodology* (pp.113-135). Routledge.
- De Villiers, C., Dumay, J. & Maroun, W. 2019. Qualitative accounting research: dispelling myths and developing a new research agenda. *Accounting & Finance*, 59(3), pp.1459-1487.
- De Vos, A.S. & Strydom, H. 2011. *Scientific theory and professional research*. Pretoria: Van Schaik.
- De Vos, A.S., Strydom H., Fouche C.B. & Delpont C.S.L. 2011. *Research at grass roots for the social sciences and human service professionals*. 4th ed. Pretoria: Van Schaik.
- Dei, D.J. 2017. *Assessing knowledge management systems implementation in Ghanaian universities* [Doctoral dissertation]. Pretoria: University of South Africa
- Deissinger, T. 2015. The German dual vocational education and training system as ‘good practice’?. *Local Economy*, 30(5), pp.557-567.
- Dekoulou, P. & Trivellas, P. 2017. Organisational structure, innovation performance and customer relationship value in the Greek advertising and media industry. *Journal of Business & Industrial Marketing*, 32(3), pp.385–397.
- Denzin, N.K. & Lincoln, Y. 2011. *The SAGE Handbook of Qualitative Research*. Fourth edition. SAGE Publications Limited, Thousand Oaks, California.
- Department of Higher Education and Training (DHET). 2013. Guidelines on the implementation of SETA grant regulations. DHET, South Africa.

Department of Higher Education and Training. 2018. Investment Trends in Post-School Education and Training in South Africa. Pretoria. Department of Higher Education and Training.

Department of Higher Education and Training. 2019. National Skills Development Plan 2030. Pretoria, South Africa. Gazette Number: 42290.

Department of Higher Education and Training. 2020. List of Sector Education and Training Authorities (SETAs) [online]. Available: <https://www.dhet.gov.za/SitePages/SETALinks.aspx> Accessed: 21 May 2020.

Dewah, P. 2012. *Knowledge retention strategies in selected southern African public broadcasting corporations* [Doctoral dissertation]. Alice: University of Fort Hare.

Dhamdhere, S.N. 2015a. Knowledge Management Strategies and Process in Traditional Colleges: A Study. *International Journal of Information Library and Society*, 4(1), pp.34-42.

Dhamdhere, S.N. 2015b. Importance of knowledge management in the higher educational institutes. *Turkish Online Journal of Distance Education-TOJDE*, 16(1), pp.162-183.

Donate, M.J. & de Pablo, J.D.S. 2015. The role of knowledge-oriented leadership in knowledge management practices and innovation. *Journal of business research*, 68(2), pp.360-370.

Drost, E.A. 2011. Validity and reliability in social science research. *Education Research and perspectives*, 38(1), pp.105-123.

Drucker PF. 1993. *Post-capitalist Society*. Butterworth Heinemann: Oxford.

Du Plessis, M. 2007. The role of knowledge management in innovation. *Journal of knowledge management*, 11(4), pp.20-29.

Du plessis, P.J. & Rousseau, G.G. 2005. *Buyer behaviour: a multi-cultural approach*. 3rd ed. Cape Town: Oxford University Press.

Duffy, N. 1999. Benchmarking knowledge strategy. In leveraging knowledge for business performance. *Knowledge In Action*, 211-228.

Duryan, M., Smyth, H., Roberts, A., Rowlinson, S. & Sherratt, F. 2020. Knowledge transfer for occupational health and safety: Cultivating health and safety learning culture in

construction firms. *Accident Analysis and Prevention*, 139, [105496].  
<https://doi.org/10.1016/j.aap.2020.105496>

Ede, C.M.Y. 2018. *Enablers for the implementation of knowledge management by Large Construction Organisations in Hong Kong*. [Doctoral dissertation]. Griffith University: Queensland.

Egbu, C., Quintas, P., Anumba, C., Kurul, E., Hutchinson, V., Al-Ghassani, A.M. & Ruikar, K. 2003. Techniques and technologies for knowledge management work package 3-interim report. *Innovation*, 101(39/3), pp.709.

El Badawy, T.A. & Magdy, M.M. 2015. The practice of knowledge management in private higher education institutions in Egypt: The demographics effect. *International Journal of Business Administration*, 6(2), pp.96-105.

Ellen, R. F. 1984. *Ethnographic research: A guide to general conduct*. New York, NY: Academic Press.

Etikan, I. & Bala, K. 2017. Sampling and sampling methods. *Biometrics & Biostatistics International Journal*, 5(6), p.00149.

Europe India Foundation for Excellence (EIFE). 2019. A Platform from bringing the best expertise from Europe to India. <https://eife.org/wp-content/uploads/2019/05/The-EU-India-Skill-Development-Partnership.pdf>. Accessed: 18/01/2021.

European Commission, 2012. TVET and Skills Development in EU Development Cooperation 2012/308055/1, *Final Report*, pp.1-102.

Fabrigar, L.R. Porter, D. R. & Norris, E.M. 2010. Some things you should know about structural equation modeling but never thought to ask. *Journal of Consumer Psychology*, 20, pp.221-225.

Fan, X. 2020. Policy-Driven Development and the Strategic Initiative of One-Million Enrollment Expansion in China's Higher Vocational Education. *ECNU Review of Education*, 3(1), pp.179-186.

Farooq, R. 2019. Developing a conceptual framework of knowledge management. *International Journal of Innovation Science*, 11(1), pp.139-160.

Farooq, R. 2019. Developing a conceptual framework of knowledge management. *International Journal of Innovation Science*, 11(1), pp.139-160.

Farrell, A.M. & Rudd, J.M. 2009. Factor analysis and discriminant validity: A brief review of some practical issues. In *Australia and New Zealand Marketing Academy Conference*, Anzmac.

Farzin, M.R., Kahreh, M.S., Hesani, M. & Khalouei, A. 2014. A survey of critical success factors for strategic knowledge management implementation: applications for service sector. *Procedia-social and behavioral sciences*, 109(8), pp.595-599.

FASSET. 2009. About FASSET. [online]. Available from: <https://www.fasset.org.za/inner.aspx?section=1&page=2> [Accessed: 21 May 2020]

Felin, T. W. & Hesterly, S. 2007. The knowledge-based view, nested heterogeneity and new value creation: Philosophical considerations on the locus of knowledge, *Academy of Management Review*, 32(1), pp.195-218.

Feng, T., Sun, L., Zhu, C. & Sohal, A.S. 2012. Customer orientation for decreasing time-to-market of new products: IT implementation as a complementary asset. *Industrial Marketing Management*, 41(6), pp.929-939.

Fernandez, I.B. & Sabherwal, R. 2010. *Knowledge management systems and processes*. ME Sharpe, Inc.1-352.

Fieser, J. & Pojman, L. 2012. *Ethics: discovering right and wrong*. 7th ed. New York: Wardsworth Cengage Learning.

Finnis, J. 1980. *Natural Law and Natural Rights*. Oxford: Clarendon Press.

Fischer, G. & Ostwald, J. 2001. Knowledge management problems, promises, realities, and challenges. *IEEE Intelligent Systems*, 16, pp.60–72.

Flick, U. 2004. Constructivism. In U. Flick, E. von Kardorff, & I. Steinke (Eds.), *A companion to qualitative research* (pp.88–94). Thousand Oaks, CA: Sage.

Floyde, A., Lawson, G., Shalloe, S., Eastgate, R. & D'Cruz, M. 2013. The design and implementation of knowledge management systems and e-learning for improved occupational health and safety in small to medium sized enterprises. *Safety science*, 60, pp.69-76.

- Fombad, M.C. & Sirorei, E.C. 2019. Knowledge management processes at St Paul's university library in Kenya. *South African Journal of Information Management*, 21(1), pp.1-8.
- Frid, R.J. 2003. *A Common KM Framework for the Government of Canada: Frid Framework for Enterprise Knowledge Management*, Canada Institute of Knowledge Management, Ontario.
- Friedrich, J., Becker, M., Kramer, F., Wirth, M. & Schneider, M. 2020. Incentive design and gamification for knowledge management. *Journal of Business Research*, 106, pp.341-352.
- Frost, A. 2014. A synthesis of knowledge management failure factors. *Recuperado el*, 22, pp.1-22.
- Frost, N. 2021. *Qualitative research methods in psychology: Combining core approaches 2e*. McGraw-Hill Education (UK).
- Gall, M. D., Gall, J. P. & Borg, W. R. 2003. *Educational research: An introduction (7th ed.)*. Boston, MA: Pearson.
- Gallupe, R.B. 2000. Knowledge Management Systems: Surveying the Landscape. Queen's School of Business. *Framework paper 00-04*.
- Gamble, J.R. 2020. "Tacit vs explicit knowledge as antecedents for organisational change", *Journal of Organisational Change Management*, 33(6), pp.1123-1141.
- García-Álvarez, M.T. 2015. Analysis of the effects of ICTs in knowledge management and innovation: The case of Zara Group. *Computers in Human Behavior*, 51, pp.994-1002.
- García-Holgado, A., Cruz-Benito, J., & García-Peñalvo, F. J. 2015. Analysis of Knowledge Management Experiences in Spanish Public Administration. In G. R. Alves & M. C. Felgueiras (Eds.), *Proceedings of the Third International Conference on Technological Ecosystems for Enhancing Multiculturality (TEEM'15)* (Porto, Portugal, October 7-9, 2015), pp.189-193. New York, NY, USA: ACM. doi:10.1145/2808580.2808609
- Garrido-Moreno, A., Lockett, N. & García-Morales, V. 2014. Paving the way for CRM success: The mediating role of knowledge management and organizational commitment. *Information & Management*, 51(8), pp.1031-1042.

Ghahroudi, M.R., Hoshino, Y. & Ahmadpoury, F. 2019. The Impact of Knowledge Management Orientation on New Product Commercialization: The Mediating Role of Market Orientation. *American Journal of Industrial and Business Management*, 9, pp.1949-1968.

Ghasemaghaei, M. 2019. Does data analytics use improve firm decision making quality? The role of knowledge sharing and data analytics competency. *Decision Support Systems*, 120, pp.14-24.

Ghasemi, B. & Valmohammadi, C. 2018, "Developing a measurement instrument of knowledge management implementation in the Iranian oil industry", *Kybernetes*, . 47(10), pp.1874-1905.

Gibbs, J.L., Kim, H. & Boyraz, M. 2017. Virtual teams. *The international encyclopedia of organizational communication*, pp.1-14.

Gill, M.J., Gill, D.J. & Roulet, T.J. 2018. Constructing trustworthy historical narratives: Criteria, principles and techniques. *British Journal of Management*, 29(1), pp.191-205.

Goh, S.C. 2002. Management Effective Knowledge Transfer: An Integrative Framework and Some Practice Implication. *Journal of Knowledge Management*, 6, pp.22-30.

Gold, A.H., Malhotra, A. & Segars, A.H. 2001. Knowledge management: An organisational capabilities perspective. *Journal of management information systems*, 18(1), pp.185-214.

Gonyora, A.M., Migiro, S., & Ngwenya, B. & Mashau, P. 2021, 'Investigating open innovation strategic alignment for sustainable competitive advantage in the automotive supply chain in South Africa', *Journal of Transport and Supply Chain Management* 15(0), a554. <https://doi.org/10.4102/jtscm.v15i0.554>.

Gonzalez, R.V.D. & Martins, M.F. 2017. Knowledge management process: A theoretical-conceptual research. *Gestão & Produção*, 24, pp.248-265.

Govender CM. 2003. *A Management Framework for Training Providers to Improve Skills Development in the Workplace* [Doctoral thesis] Johannesburg: Rand Afrikaans University.

Govender, C. & Bisschoff, T. 2007. A management framework for training providers to improve workplace skills development. *Acta Commercii*, 7(1), pp.54-65.

- Greco, M., Grimaldi, M. & Hanandi, M. 2013. How to select knowledge management systems: a framework to support managers. *International Journal of Engineering Business Management*, 5, pp.1-6.
- Green, A.E. & Martinez-Solano, L. 2011. *Leveraging training skills development in SMEs: an analysis of the West Midlands*, England, UK.
- Greenstone, M. and Looney, A. 2011. Building America's job skills with effective workforce programs: A training strategy to raise wages and increase work opportunities. *Washington, DC: Brookings Institution*.
- Grix, J. 2004. *The Foundations of Research*. New York, NY: Palgrave Macmillan.
- Guba, E. G. 1981. Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Communication and Technology Journal*, 29(2), pp.75-91. doi: 10.1007/bf02766777.
- Guba, E. G., & Lincoln, Y. S. 2005. Paradigmatic controversies, contradictions, and emerging confluences. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp.191–215). Thousand Oaks, CA: Sage.
- Guba, E.G. 1990. *The Paradigm Dialog*. SAGE Publications Ltd., London.
- Guetterman, T.C. & Fetters, M.D. 2018. Two methodological approaches to the integration of mixed methods and case study designs: A systematic review. *American Behavioral Scientist*, 62(7), pp.900-918.
- Gunjal, B. 2019. Knowledge management: Why do we need it for corporates. *Malaysian Journal of Library & Information Science (ISSN: 1394-6234)*. 10(2), pp.37-50.
- Gupta, S.L. 2011. *Marketing research*. New Delhi: Excel Books.
- Guribie, F.L. & Tengan, C. 2019. A Proposed Knowledge Management Implementation Framework for the Ghanaian Construction Industry. *Journal of Building Construction and Planning Research*, 7, pp.1-10. <https://doi.org/10.4236/jbcpr.2019.71001>
- Guto, A.J. & Ola-Awo, A.W. 2020. Assessment of the barriers to knowledge management practices among construction organisations in Abuja, Nigeria. *Confluence of Research, Theory and Practice in the Built Environment*, pp.696-709.

- Hahn, J. & Subramani, M. 2000. A framework of knowledge management systems: issues and challenges for theory and practice, ICIS 2000 Proceedings. 28.
- Hair, J.F., Hult, G.T.M., Ringle, C.M. & Sarstedt, M. 2014. *A primer on partial least squares structural equation modelling*. Sage, Thousand Oaks, CA
- Hair, J.F., Money, A.H., Samouel, P. & Page, M. 2007. Research methods for business. *Education+ Training*, 49(4), pp.336-337.
- Hair, J.F., Risher, J.J., Sarstedt, M. & Ringle, C.M. 2019. When to use and how to report the results of PLS-SEM. *European business review*, 31(1), pp.2-24.
- Hakiman, H., Munadi, M. & Ernawati, F. 2019. Design of knowledge management implementation in Islamic universities. *Humanities & Social Sciences Reviews*, 7(1), pp.266-277.
- Halawi, L.A., Aronson, J.E. & McCarthy, R.V. 2005. Resource-based view of knowledge management for competitive advantage. *The electronic journal of knowledge management*, 3(2), pp.75-86.
- Hall, R. 1993. A framework linking intangible resources and capabilities to sustainable competitive advantage. *Strategic management journal*, 14(8), pp.607-618.
- Halldorsdottir, S. 2000. The Vancouver School of doing phenomenology. In Fridlund B,
- Hammond, M & Wellington, R. 2013. *Research methods*. Great Britain: Routledge.
- Harb, Y. & Abu-Shanab, E. 2020. A descriptive framework for the field of knowledge management. *Knowledge and Information Systems*, 62(12), pp.4481-4508.
- Hariharan, A. 2005. 360 Degree Knowledge Management, *Journal of Knowledge Management Practice*, 6, Library, *Online Journal*, ISSN 1705-9232.
- Haris, A.R.B. & Harib, A.M.Y. 2018. Knowledge Management Implementation: An Experience of Perdana Leadership Foundation. *International Journal of Academic Research in Progressive Education and Development*, 7(3), pp.259-267.
- Harris, L. R. & Brown, G. T. L. 2010. Mixing interview and questionnaire methods: Practical problems in aligning data. *Practical Assessment, Research & Evaluation*, 15(1), pp.1-19.

- Harris, R., Simons, M. and McCarthy, C., 2006. *Private Training Providers in Australia: Their Characteristics and Training Activities. A National Vocational Education and Training Research and Evaluation Program Report*. National Centre for Vocational Education Research Ltd. PO Box 8288, Stational Arcade, Adelaide, SA 5000, Australia.
- Hart, S.L. 1995. A natural-resource-based view of the firm. *Academy of management review*, 20(4), pp.986-1014.
- Harwood, C. 2012. State of the Literacy and Essential Skills Field. *Canadian Literacy and Learning Network*, pp.1-127.
- Haslinda, A. & Sarinah, A. 2009. A Review of Knowledge Management Models, *The Journal of International Social Research*, 2(9), pp.187–198.
- Haupt, G. 2018. Hierarchical thinking: a cognitive tool for guiding coherent decision making in design problem solving. *International Journal of Technology and Design Education*, 28(1), pp.207-237.
- Heale, R. & Twycross, A. 2015. Validity and reliability in quantitative studies. *Evidence-based nursing*, 18(3), pp.66-67.
- Heath, E. and McLaren, L., 2013. Towards a framework for identifying and engaging rural tourism route stakeholders in southern Africa. *Africanus*, 43(1), pp.18-32.
- Hebibi, L., Raimi, N. & Milićević, R. 2019. Knowledge management and the importance of knowledge management for the organization's performance. *Ekonomika*, 65(1), pp.117-126.
- Heisig, P. 2009. Harmonisation of knowledge management – comparing 160 KM frameworks around the globe", *Journal of Knowledge Management*, 13(4), pp.4–31.
- Henning, M., Hagedorn-Hansen, D. & von Leipzig, K.H. 2017. Metacognitive learning: skills development through gamification at the Stellenbosch Learning Factory as a case study. *South African Journal of Industrial Engineering*, 28(3), pp.105-112.
- Herden, T.T. 2020. Explaining the competitive advantage generated from Analytics with the knowledge-based view: the example of Logistics and Supply Chain Management. *Business Research*, 13(1), pp.163-214.

- Hippach-Schneider, U., Krause, M. and Woll, C. 2007. *Vocational education and training in Germany: short description* (Vol. 138). Office for Official Publications of the European Communities, pp.1-87.
- Hobo, M. 2016. *An analysis of the skills development programmes within the context of human resource development: The case of the Eastern Cape Provincial Department of Social Development* [Masters dissertation] Potchefstroom: North West University.
- Hoffman, T & Bennett, S. 2013. *Evidence based practice across the health professions*. Chatswood, Sydney: Churchill Livingstone, Elsevier.
- Holsapple CW, Joshi KD. 2002. Knowledge management: a threefold framework. *Information Society* 18(1), pp.47–64.
- Holtom, B., Baruch, Y., Aguinis, H. & A Ballinger, G., 2022. Survey response rates: Trends and a validity assessment framework. *Human relations*, 75(8), pp.1560-1584.
- Honigmann, J.J. 2003. Sampling in ethnographic fieldwork. In *Field research*, pp.134-152. Routledge.
- Horwitch, M. & Armacost, R. 2002. Helping knowledge management be all it can be. *Journal of Business Strategy*, 23(3), pp.26-31.
- Huang, L.S. & Lai, C.P. 2014. Critical success factors for the implementation of knowledge management in life insurance enterprises. *International Journal of Management and Marketing Research*, 7(2), pp.79-89.
- Human Resource and Skills Development Canada (HRSDC). 2009. 2009–2010 Estimates Departmental Performance Report, pp.1-101.
- Ibrahim, F. & Salleh, N.M. 2019. Embedding knowledge management theory in learning and teaching approach. *International Journal of Learning and Development*, 9(1), pp.19-40.
- Igbinovia, M.O. & Ikenwe, I.J. 2017. Knowledge management: processes and systems. *Information Impact: Journal of Information and Knowledge Management*, 8(3), pp.26-38.

Ikenwe, I.J. & Igbinoia, M.O. 2015. Influence of Knowledge Sharing in Reducing the Spread of HIV. *Kuwait Chapter of Arabian Journal of Business and Management Review*, 33(2587), pp.1-14.

Inaam, A. 2016. Research Design. *Research in Social Science: Interdisciplinary Perspectives*.

Inkpen, A.C. 2000. Learning through joint ventures: A framework of knowledge acquisition. *Journal of management studies*, 37(7), pp.1019-1044.

International Labour Office, 2010. A skilled workforce for strong, sustainable and balanced growth: a G20 training strategy, pp.1-41.

International Labour Organisation (ILO). 2020. State of Skills Ghana. [https://www.ilo.org/skills/projects/skill-up/WCMS\\_754653/lang--en/index.htm](https://www.ilo.org/skills/projects/skill-up/WCMS_754653/lang--en/index.htm). Accessed: 23/11/2020.

Intezari, A., Taskin, N. & Pauleen, D.J. 2017. Looking beyond knowledge sharing: an integrative approach to knowledge management culture. *Journal of Knowledge Management*, 2, pp.492-515.

Ioannis, R. & Belias, D. 2020. Combining strategic management with knowledge management: Trends and international perspectives. *International Review of Management and Marketing*, 10(3), pp.39-45.

Iqbal, A., Latif, F., Marimon, F., Sahibzada, U.F. & Hussain, S. 2019. From knowledge management to organisational performance: Modelling the mediating role of innovation and intellectual capital in higher education. *Journal of Enterprise Information Management*, pp.1-35.

Isaacs, S.B.A. 2000. *The National Qualification Framework and the Standards Setting*. South African Qualifications Authority, pp.1-45.

Ismail, M.B. & Yusof, Z.M. 2009. Demographic factors and knowledge sharing quality among Malaysian government officers. *Communications of the IBIMA*, 9(1), pp.1-8.

Jackson, L.S., 2016. *Public-Private Partnerships: Instruments to Enhance Education, Training and Employment Opportunities in the Republic of South Africa*. [Master's thesis]. City University of New York: New York.

- Jacobs, E. 2013. Principles for reforming workforce development and human capital policies in the United States. *Governance Studies at Brookings*.
- Jagannathan, S. 2012. Lessons for skills policy frameworks. *SKILLS PATHWAYS ASIA*, pp.43-48.
- Jain, S., Shao, G. and Shin, S.J. 2017. Manufacturing data analytics using a virtual factory representation. *International Journal of Production Research*, 55(18), pp.5450-5464.
- Jakubik, M. 2007. Exploring the knowledge landscape: four emerging views of knowledge. *Journal of knowledge management*. 11(4), pp.6-19.
- Jancenelle, V.E., 2021. Tangible– Intangible resource composition and firm success. *Technovation*, 108, pp.102337.
- Janieson, S. 2004. Likert scales: How to use them. *Blackwell Publishing Ltd Medical Education*, 38, pp.1212-1218.
- Jarrahi, M.H., Philips, G., Sutherland, W., Sawyer, S. & Erickson, I. 2019. Personalization of knowledge, personal knowledge ecology, and digital nomadism. *Journal of the Association for Information Science and Technology*, 70(4), pp.313-324.
- Jauniškytė, I. & Kvaraciejūtė, E. 2008. Structure of knowledge management. *Global Academic Society Journal: Social Science Insight*, 1(2), pp.4-20. ISSN 2029-0365.
- Javadi, M. & Zarea, K. 2016. Understanding thematic analysis and its pitfall. *Journal of client care*, 1(1), pp.33-39.
- Jennex, M.E., Smolnik, S. & Croasdell, D. 2014. Knowledge management success in practice. In *2014 47th Hawaii International Conference on System Sciences*, pp.3615-3624. IEEE.
- Jennings, G. 2010. *Tourism Research*. Milton Australia: John Wiley & Sons.
- Jeon, S., Kim, Y.G. & Koh, J. 2011. An integrative model for knowledge sharing in communities-of-practice. *Journal of knowledge management*. 15(2), pp.251-269.
- Jirojwong, S, Johnson, M & Welch, A. 2014. *Research Methods in Nursing and Midwifery*. 2nd Edition. Sydney: Oxford University Press.

- Joffe, H. 2011. Thematic analysis. *Qualitative research methods in mental health and psychotherapy: A guide for students and practitioners*, pp.209-223.
- Johanson, R.K. & Adams, A.V. 2004. Skills development in sub-Saharan Africa. The World Bank.
- Johnson, B. & Christensen, L. 2010. *Educational research: quantitative, qualitative and mixed approaches*. 4th ed. California: Sage Publications.
- Johnson, B.K & Onwuegbuzie, A. J 2004. Mixed methods research: A research paradigm whose time has come. *American Education Research Association*, 33(7), pp.14-26.
- Johnson, R.B., Onwuegbuzie, A.J. & Turner, L.A. 2007. Toward a definition of mixed methods research. *Journal of mixed methods research*, 1(2), pp.112-133.
- Kaba, A. & Ramaiah, C.K. 2020. Predicting knowledge creation through the use of knowledge acquisition tools and reading knowledge sources. *VINE Journal of Information and Knowledge Management Systems*, 50(3), pp.531-551.
- Kainth, G. S. 2010. Push and pull factors of migration: A case study of brick kiln migrant workers in Punjab. *Munich Personal RePEc Archive*, pp.1-34.
- Kaliyadan, F. & Kulkarni, V. 2019. Types of variables, descriptive statistics, and sample size. *Indian dermatology online journal*, 10(1), pp.82-86.
- Kamau, J.G., Senaji, T.A. & Nzioki, S.C.A. 2019. Knowledge Management Capability, Demographics and Market Capitalizing Agility. *International Journal of Innovative Research and Development*, 8(8), pp.91-106.
- Kapondoro, L., Iwu, C.G & Twum-Darko, M. 2015. Human capital advantage: a determinant of organisational performance in the Hospitality sector. *African Journal of Hospitality, Tourism and Leisure*, 4(2), pp.1-21.
- Kara, H., 2018. *Write a questionnaire: Little quick fix*. SAGE.
- Karami, M., Alvani, S.M., Zare, H. & Kheirandish, M. 2015. Determination of critical success factors for the implementation of knowledge management, using qualitative and quantitative tools (Case study: Bahman Automobile Industry). *Iranian Journal of Management Studies*, 8(2), pp.181-201.

- Kaushik, V. & Walsh, C.A. 2019. Pragmatism as a research paradigm and its implications for social work research. *Social sciences*, 8(9), p.255.
- Khatri, K.K. 2020. Research paradigm: A philosophy of educational research. *International Journal of English Literature and Social Sciences (IJELS)*, 5(5), pp.1435-1440.
- Kelly, M., Dowling, M. & Millar, M. 2018. The search for understanding: The role of paradigms. *Nurse researcher*, 25(4), pp.9-13.
- Kennedy, I.G., Latham, G. & Jacinto, H. 2015. *Education skills for 21st century teachers: Voices from a global online educators' forum*. Springer.
- Kent, R., 2020. *Data construction and data analysis for survey research*. Bloomsbury Publishing.
- Khiste, G.P., Maske, D.B. & Deshmukh, R.K. 2018. Knowledge Management Output in Scopus during 2007 to 2016. *Asian Journal of Research in Social Sciences and Humanities*, 8(1), pp.10-19.
- Kiessling, T.S., Richey, R.G., Meng, J. & Dabic, M. 2009, 'Exploring knowledge management to organisational performance outcomes in a transitional economy, *Journal of World Business* 44, pp.421–433.
- Kiger, M.E. & Varpio, L. 2020. Thematic analysis of qualitative data: AMEE Guide No. 131. *Medical teacher*, 42(8), pp.846-854.
- Kinda, M.T. 2019. *E-commerce as a Potential New Engine for Growth in Asia*. International Monetary Fund.
- Kinyua, G.M. 2015. Relationship between knowledge management and performance of commercial banks in Kenya. [Unpublished Doctoral thesis]. Nairobi: Kenyatta University.
- Kinyua, M.G., Muathe, S.M. & Kilika, M.J. 2015. Influence of knowledge transfer and knowledge conversion on performance of commercial banks in Kenya. *Science Journal of Business and Management*, 3(6), pp.228-234.
- Kirchner, K., Ipsen, C. & Hansen, J.P. 2021. COVID-19 leadership challenges in knowledge work. *Knowledge Management Research & Practice*, 19(4), pp.493-500.

- Kivunja, C. & Kuyini, A.B. 2017. Understanding and applying research paradigms in educational contexts. *International Journal of higher education*, 6(5), pp.26-41.
- Koohang, A., Paliszkievicz, J. & Goluchowski, J. 2017. The impact of leadership on trust, knowledge management, and organizational performance: A research model. *Industrial Management & Data Systems*, 117(3), pp.521-537.
- Kordab, M. 2020. Evaluation of Factors Affecting the Efficiency of Knowledge Management Processes within Organisations. *International Journal of Advanced Science and Technology*, 29(2), pp.1277-1285.
- Kraak, A., Jewison, R., Pillay, P., Chidi, M., Bhagwan, N., Nomvete, S. & Engelbrecht, B., 2013. Review of the current skills development system and recommendations towards the best model for delivering skills in the country. *Skills System Review Technical Task of the Human Resource Development Council of South Africa*, 24.
- Krstić, B. & Petrović, B. 2012. The role of knowledge management in increasing enterprise's innovativeness. *Economics and Organisation*, 9(1), pp.93-110.
- Kryscynski, D., Coff, R. & Campbell, B. 2021. Charting a path between firm-specific incentives and human capital-based competitive advantage. *Strategic Management Journal*, 42(2), pp.386-412.
- Kuhlengisa I.R. 2018. Influences of skills development and training programmes on municipal employees' performance in Amathole District Municipality [Bachelors. thesis]. Alice: University of Fort Hare.
- Kuhn, T.S. 1970. *The Structure of Scientific Revolutions*, 2nd ed. Chicago: University of Chicago Press.
- Kumar, R. 2014. *Research methodology: a step-by-step guide for beginners*. 4th ed. London: Sage Publications.
- Kumatongo, B. Muzata, K.K. 2021. Research Paradigms and Designs with their Application in Education. *Journal of Lexicography and Terminology (Online ISSN 2664-0899. Print ISSN 2517-9306)*, 5(1), pp.16-32.
- Leedy, P. & Ormrod, J. 2005. *Practical research, planning and design*. 8th edition. New Jersey: Pearson Prentice Hall.

- Leedy, P.D. & Ormrod, J.E. 2013. *Practical research*. 10th edition. USA, New York: Pearson Education Inc.
- Levett, G.P. & Guenov, M.D. 2000. A methodology for the implementation of knowledge management. *Journal of Knowledge Management*, 4(3), pp.258-269.
- Levitt, S.D. & List, J.A. 2007. What do laboratory experiments measuring social preferences reveal about the real world? *Journal of Economic perspectives*, 21(2), pp.153-174.
- Levy, P.S. & Lemeshow, S. 2008. *Sampling of populations: methods and applications*. 4th ed. New York: John Wiley & Sons incl.
- Lin, X. 2019. Review of Knowledge and Knowledge Management Research. *American Journal of Industrial and Business Management*, 9, pp.1753-1760.
- Lincoln, Y. S. & Guba, E. G. 1985. *Naturalistic Inquiry*. (Eds) Thousand Oaks: Sage.
- Lincoln, Y.S. 1990. The making of a constructivist: A remembrance of transformations past. In *The Paradigm Dialog*. Edited by Egon G. Guba. Newbury Park: Sage, pp.67–87.
- Lincoln, Y.S., Lynham, S.A. & Guba, E.G. 2011. Paradigmatic controversies, contradictions, and emerging confluences, revisited. *The Sage handbook of qualitative research*, 4(2), pp.97-128.
- Ling, T.N., Yih, G.C., Eze, U.C., Gan, G.G.G. & Ling, L.P. 2008. Knowledge management drivers for organisational competitive advantage. In *Proceedings of Applied International Business Conference*, pp.502-510.
- Linneberg, M.S. & Korsgaard, S. 2019. Coding qualitative data: A synthesis guiding the novice. *Qualitative research journal*, 19(3), pp.259-270.
- Lobiondo, G. & Habe, R. J. 2013. *Nursing research in Canada, Methods, critical appraisal, and utilization*, 3rd Canadian Ed, Toronto, Elsevier.
- Lobontiu, G. & Lobontiu, M. 2007. Methods for business researching. *Scientific Bulletin Series C: Fascicle Mechanics, Tribology, Machine Manufacturing Technology*, 21, p.413.
- Lolwana, P., Ngcwangu, S., Jacinto, C., Millenaar, V. & Martín, M.E. 2015. Understanding Barriers to Accessing Skills Development and Employment for Youth in Argentina and South Africa: Synthesis Report, pp.1-63.

- López-Cabarcos, M.Á., Srinivasan, S. & Vázquez-Rodríguez, P. 2020. The role of product innovation and customer centricity in transforming tacit and explicit knowledge into profitability. *Journal of Knowledge Management*, 24(5), pp.1037-1057.
- Luo, Y. & Child, J., 2015. A composition-based view of firm growth. *Management and Organization Review*, 11(3), pp.379-411.
- Lucas, S.R. 2014. Beyond the existence proof: Ontological conditions, epistemological implications, and in-depth interview research. *Quality & Quantity*, 48, pp.387-408.
- Lv, W.D., Tian, D., Wei, Y. & Xi, R.X. 2018. Innovation Resilience: A New Approach for Managing Uncertainties Concerned with Sustainable Innovation. *Sustainability*, 10(10), pp.1-25.
- Lyu, H., Zhou, Z. & Zhang, Z. 2016. Measuring Knowledge Management Performance in Organizations: An Integrative Framework of Balanced Scorecard and Fuzzy Evaluation. *Information* (2078-2489), 7(2).
- Mackenzie, N. & Knipe, S. 2006. Research dilemmas: Paradigms, methods and methodology. *Issues in educational research*, 16(2), pp.193-205.
- Makhubela. S.S. 2017. Knowledge retention at a platinum mine in North West province of South Africa. [Master's thesis]. Pretoria: University of South Africa.
- Malhotra, N. K. 2007. *Marketing Research Approach*. 3rd ed. Harlow: Prentice-Hall.
- Malhotra, N.K. & Birks, D.F. 2007. *Marketing research: An applied approach*: Pearson Education.
- Malhotra, N.K. 2010. *Marketing research: an applied orientation*. New Jersey: Prentice Hall.
- Mamaile, L.J. 2018. *Developing of a framework to evaluate the internal audit functions at municipalities in South Africa* [Doctoral dissertation]. Potchefstroom: North-West University.
- Mansour, E., Alhawari, S., Talet, A.N. & Al-Jarrah, M. 2011. Development of conceptual framework for knowledge management process. *Journal of Modern Accounting and Auditing*, 7(8), pp.864-877.

- Manyau, T. 2015. *Assessing skills development management for lecturers in technical vocational education and training colleges in North West Province* [Doctoral dissertation]. Durban: University of KwaZulu Natal.
- Maravilhas, S. & Martins, J. 2019. Strategic knowledge management in a digital environment: Tacit and explicit knowledge in Fab Labs. *Journal of business research*, 94, pp.353-359.
- Marchegiani, L. 2021. *Digital Transformation and Knowledge Management*. Routledge.
- Mardani, A., Nikoosokhan, S., Moradi, M. & Doustar, M. 2018. The relationship between knowledge management and innovation performance. *The Journal of High Technology Management Research*, 29(1), pp.12-26.
- Maree, K. 2007. *First steps in research*. Pretoria: Van Schaik.
- Maree, K. 2010. *First Steps in Research*. Pretoria: Van Schaik Publishers.
- Marock, C. 2010. Thinking ‘out the box’ by thinking ‘in the box’: Considering skills development: Challenges and recommendations. *Development Bank of South Africa (DBSA), Midrand*.
- Martelo-Landroguez, S. & Cepeda-Carrión, G. 2016. How knowledge management processes can create and capture value for firms? *Knowledge Management Research & Practice*, 14(4), pp.423-433.
- Martinez-Fernandez, C. and Choi, K. 2012. An overview of skills development pathways in Asia. *Skills Development Pathways in Asia*, pp.13-40.
- Masa’deh, R. 2016. The Role of Knowledge Management Infrastructure in Enhancing Job Satisfaction at Aqaba Five Star Hotels in Jordan. *Communications and Network*, 8, pp.219-240.
- Masilela, L.S. 2012. The middle management learning programme of the South African Police Service: a critical evaluation [Masters Mini-dissertation] Potchefstroom: North-West University.
- Mateus, A.D., Allen-Ile, C. and Iwu, C.G. 2014. Skills shortage in South Africa: Interrogating the repertoire of discussions. *Mediterranean Journal of Social Sciences*, 5(6), pp.63-73.

- Maxcy, S.J. 2003. Pragmatic threads in mixed methods research in the social sciences: The search for multiple modes of inquiry and the end of the philosophy of formalism. In *Handbook of Mixed Methods in Social and Behavioral Research*. Edited by Abbas Tashakkori and Charles Teddlie. Thousand Oaks: Sage, pp.51–89.
- Mayer, R. C., J. H. Davis, & F. D. Schoorman. 1995. “An Integrative Model of Organizational Trust.” *Academy of Management Review* 20(3), pp.709–734. doi:10.5465/amr.1995.9508080335.
- Maziriri, E.T. 2016. The influence of perceived social risk and buying behaviour on apparel store choice decision among generation y female students within the Sedibeng district. [Masters dissertation]. Vanderbijlpark: Vaal University of Technology.
- Maziriri, E.T. 2018. The impact of green marketing practices on competitive advantage and business performance among manufacturing small and medium enterprises (SMEs) in South Africa. [Doctor of Philosophy thesis]. Johannesburg: University of the Witwatersrand.
- McBurney, D. & White, T. 2009. *Research Methods*. Cengage Learning.
- Mello, J. & Flint, D.J. 2009. A refined view of grounded theory and its application to logistics research. *Journal of Business Logistics*, 30(1), pp.107-126.
- Mello, J.A. 2011. *Strategic Management of Human Resources*. International Edition. Southern Western: Cengage Learning.
- Merriam, S.B. & Grenier, R.S. eds., 2019. *Qualitative research in practice: Examples for discussion and analysis*. John Wiley & Sons.
- Mertens, D.M. 2015. *Research and Evaluation in Education and Psychology: Integrating Diversity with Quantitative and Qualitative and Mixed Methods Approaches*. Fourth edition. SAGE, Thousand Oaks, California.
- Meyer, M. 2002. *Managing Human Resource Development: An outcomes-based approach*, 2nd Edition. Cape Town: Interpak Books Pietermaritzburg.
- Michalisin, M.D., Smith, R.D. & Kline, D.M. 1997. In search of strategic assets. *The international journal of organizational analysis*, 5(4), pp.360-387.

Minister of Higher Education and Training. 2014. National Skills Development Plan 2030. Government Gazette, pp.1-34.

Miratrix, L.W., Sekhon, J.S., Theodoridis, A.G. & Campos, L.F. 2018. Worth weighting? How to think about and use weights in survey experiments. *Political Analysis*, 26(3), pp.275-291.

Mishra, S.B. & Alok, S. 2022. *Handbook of research methodology*. Educreation Publishing, New Delhi, India

Mncwabe, L. 2013. *The role of skills development initiatives in promoting local economic development (LED) in South African townships: a case study of Cato Manor, Durban* [Doctoral dissertation] Durban: University of Kwa-Zulu Natal.

Mnisi, B.N. 2015. *An evaluation of training and development for the South African Police Service: A case of Vereeniging cluster* [Masters dissertation] Vanderbijlpark: North West University.

Mohajan, H. 2017. The impact of knowledge management models for the development of organisations. *Journal of Environmental Treatment Techniques*,5(1), pp.12-33.

Mohajan, H.K. 2016. Sharing of Tacit Knowledge in Organizations: A Review. *American Journal of Computer Science and Engineering American Journal of Computer Science and Engineering*, 3(2), pp.6-19.

Mohajan, H.K., 2020. Quantitative research: A successful investigation in natural and social sciences. *Journal of Economic Development, Environment and People*, 9(4), pp.50-79.

Mohapi, L.M. 2011. Skills development strategy for efficient service delivery at Sedibeng District Municipality [Masters mini-dissertation] Vanderbijlpark: North West University Vaal Triangle Campus.

Mohlala, G. 2011. *Effects of the Skills Development Act 97 of 1998 on transforming management training and development: a case study of the Greater Tubatse Local Municipality* [Masters mini-dissertation] Pretoria: University of South Africa.

Molaoa, M.L. 2011. *Skills development strategy for efficient service delivery at Sedibeng District Municipality* [Masters dissertation] Vanderbijlpark: North West University.

Mondy, R.W. & Martocchio, J.J. 2016. *Human Resource Management* 14th Global ed.

- Mopeli, S.A. 2014. Training and skills development for senior municipal officials in the Johannesburg Metropolitan Municipality [Masters dissertation] Johannesburg: University of Johannesburg.
- Moss, M. 2001. Sensemaking, complexity and organizational knowledge. *Knowledge and Process Management*, 8(4), pp.217-232.
- Mothe, C., Nguyen-Thi, U.T. & Triguero, Á. 2018. Innovative products and services with environmental benefits: Design of search strategies for external knowledge and absorptive capacity. *Journal of Environmental Planning and Management*, 61(11), pp.1934-1954.
- Moutinho, L. & Hutcheson, G.D. 2011. *The sage dictionary of quantitative management research*. London: Sage Publications.
- Muijs, D. 2011. *Doing quantitative research in education with SPSS*. 2nd ed. London: Sage Publications.
- Mummenthey, C. 2010. Skills Development in South Africa: A Reader on the South African Skills Development Arena. *German Development Service*.
- Naidoo, S. 2021. *The promise and limits of Web 2.0 tools for communities of practice*. [Doctoral dissertation]. Stellenbosch: Stellenbosch University.
- Nair, B.V. & Munusami, C. 2019. Knowledge management practices: An exploratory study at the Malaysian higher education institutions. *Journal of Research in Innovative Teaching & Learning*, pp.1-17. DOI 10.1108/JRIT-01-2019-0008.
- Namondwe, T. 2011. *Implementing knowledge management in academic libraries: a comparative case study of the Kamuzu College of Nursing and Bunda College of Agriculture libraries*. [Master's thesis]. Cape Town: University of Cape Town.
- Naong, M.N. 2009. Impact of skills development training on employee motivation, perceptions of organizational climate and individual performance [Doctoral dissertation] Durban: University of KwaZulu Natal.
- Nardi, P.M., 2018. *Doing survey research: A guide to quantitative methods*. Routledge.
- National Skills Development Policy (NSDP). 2020. Nairobi. Kenya.

- Ndabari, M. 2021. Knowledge management and performance: A conceptual review. *International Academic Journal of Human Resource and Business Administration*, 3(9), pp.538-553.
- Neuman, W.L. 2014. *Basics of social research: qualitative & quantitative approaches*. 3rd ed. Essex: Pearson Education.
- Nezafati, N., Razaghi, S., Moradi, H., Shokouhyar, S. & Jafari, S. 2021. Promoting knowledge sharing performance in a knowledge management system: do knowledge workers' behavior patterns matter?. *VINE Journal of Information and Knowledge Management Systems*, (ahead-of-print).
- Ngai, E.W. & Chan, E.W.C. 2005. Evaluation of knowledge management tools using AHP. *Expert systems with applications*, 29(4), pp.889-899.
- Ngcwangu, S. 2019. Skills Development and TVET Policies in South Africa: The Human Capabilities Approach. *Handbook of Vocational Education and Training*. Springer Nature Switzerland AG, 10, pp.1-14.
- Ningi, A.I. 2022. Data Presentation in Qualitative Research: The Outcomes of the Pattern of Ideas with the Raw Data. *International Journal of Qualitative Research*, 1(3), pp.196-200.
- Nonaka, I. & Takeuchi, H. 1995. *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*, Oxford University Press, New York, NY.
- Nonaka, I. 1994. A dynamic theory of organisational knowledge creation. *Organisation science*, 5(1), pp.14-37.
- Nonaka, I. 1998. *The Knowledge-Creating Company*. In *Harvard Business Review on Knowledge Management*. Harvard Business School Publishing, Boston.
- Noprisson, H. 2019. Challenges and Benefits of Knowledge Management Practices in Electronic Government. *Int. J. Sci. Res. Comput. Sci. Eng. Inf. Technol*, 5(4), pp.271-277.
- Nor, N.M., Khairi, S.M.M., Rosnan, H., Maskun, R. & Johar, E.R. 2020. Establishing a knowledge-based organisation: Lesson learnt and KM challenges in Malaysian organisation. *Innovation & Management Review*, 17(3), pp.235-249.

- Nowell, L.S., Norris, J.M., White, D.E. & Moules, N.J. 2017. Thematic analysis: Striving to meet the trustworthiness criteria. *International journal of qualitative methods*, 16(1), p.1609406917733847.
- Nusair, K., & Hua, N. 2010. Comparative assessment of structural equation modeling and multiple regression research methodologies: E-commerce context. *Tourism Management*, 31(3), pp.314–324.
- Oates, J., Kwiatkowski, R. & Coulthard, L.M. 2010. Code of human research ethics. *The British Psychological Society*, 4(1), pp.5-30.
- Obermayer, N., Gaál, Z., Szabó, L. & Csepregi, A. 2020. Leveraging knowledge sharing over social media tools. In *Information Diffusion Management and Knowledge Sharing: Breakthroughs in Research and Practice*, pp.761-784, IGI Global.
- Obilor, E.I. 2023. Convenience and Purposive Sampling Techniques: Are they the Same? *International Journal of Innovative Social & Science Education Research*, 11(1), pp.1-7.
- Ogunseye, O.S., Adetiloye, P.K, Idowu, S.O., Folorunso, O. & Akinwale, A.T. 2011."Harvesting knowledge from computer mediated social networks", *VINE*, 41(3) pp.252-264.
- Oladele, O.I. & Mudhara, M. 2016. *Empowerment of Women in Rural Areas through Water Use Security and Agricultural Skills Training for Gender Equity and Poverty Reduction in KwaZulu-Natal and North West Province: Report to the Water Research Commission*. Water Research Commission Report No. 2176/1/16.
- Ologbo, A.C. & Nor, K.M. 2015. The 7-Circle Model: A Practical and Coherent KM Model for Managing Organizational Knowledge, *Mediterranean Journal of Social Sciences*, 6(4), pp.120–128.
- Onwuegbuzie, A. J., & Leech, N. L. 2007. Validity and Qualitative Research: An Oxymoron? *Quality and Quantity*, 41, pp.233–249. doi: 10.1007/s11135- 006-9000-3.
- Organisation for Economic Co-operation and Development (OECD). 2020. *OECD Skills Strategy Northern Ireland (United Kingdom), Assessment and Recommendations*, OECD Skills Studies, OECD Publishing, Paris, <https://doi.org/10.1787/1857c8af-en>.

Organisation for Economic Co-operation and Development (OECD). 2018. Skills Strategy Implementation Guidance for Portugal: Strengthening the Adult-Learning System, OECD Skills Studies, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264298705-en>.

Organisation for Economic Co-operation and Development (OECD). 2015. Schools for Skills—A New Learning Agenda for Egypt, pp.1-272.

Osman, M.A., Noah, S.A.M. & Saad, S. 2022. Ontology-based knowledge management tools for knowledge sharing in organization—a review. *IEEE Access*, 10, pp.43267-43283.

Oxford English Dictionary. 2003. Oxford University Press. <http://www.oed.com> [Accessed 21 February 2023].

Palinkas, L.A., Horwitz, S.M., Green, C.A., Wisdom, J.P., Duan, N. & Hoagwood, K. 2013. Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed-method Implementation Research. *Administration and policy in mental health*. 42(5), pp.1–12.

Palmer, R., 2007. November. What room for skills development in " post-primary education": A look at selected countries. *In background paper for the Paris meeting of the Working Group for International Co-operation in Skills Development*, pp.13-15.

Pandey, P. & Pandey, M.M., 2021. *Research methodology tools and techniques*. Bridge Center.

Pansiri, J. 2005. Pragmatism: A methodological approach to researching strategic alliances in tourism. *Tourism and Hospitality Planning and Development*, 2, pp.191–206.

Parahoo, K. 2014. *Nursing Research, Principles, Process and Issues*. Third edition. Palgrave Macmillan, Hampshire.

Paschen, J., Kietzmann, J. & Kietzmann, T.C. 2019. Artificial intelligence (AI) and its implications for market knowledge in B2B marketing. *Journal of Business & Industrial Marketing*.

Patnaik, R. & Mishra, M.K. 2015 January. Role of Content Management Software (CMS) in libraries for information dissemination. *In 2015 4th International Symposium on Emerging Trends and Technologies in Libraries and Information Services*. pp.117-121, IEEE

Patton, M. Q. 1990. *Qualitative evaluation and research methods*, 2nd ed. Newbury Park: Sage.

Patton, M.Q. 2002. *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.

Pawlowski, J. & Bick, M. 2012. The global knowledge management framework: Towards a theory for knowledge management in globally distributed settings. *Electronic journal of knowledge management*, 10(1), pp.93-109.

Pejřová, I. & Klímeck, P. 2014. The knowledge management of older workers: Younger workers' perspectives. In *Proceedings of the 6th European Conference on Intellectual Capital (ECIC 2014)*. Academic Conferences Ltd.

Pellegrini, M.M., Ciampi, F., Marzi, G. & Orlando, B. 2020. The relationship between knowledge management and leadership: mapping the field and providing future research avenues. *Journal of Knowledge Management*, 24(6), pp.1445-1492.

Pelser, C. and Mostert, P.G., 2016. Relationship intention and satisfaction as predictors of wholesale and retail customers' loyalty towards their training providers. *Southern African Business Review*, 20(1), pp.29-50.

Petersen, I.H., Kruss, G., McGrath, S. and Gastrow, M. 2016. Bridging skills demand and supply in South Africa: The role of public and private intermediaries. *Development Southern Africa*, 33(3), pp.407-423.

Petrides, L.A. & Nguyen, L. 2006. Knowledge management trends: Challenges and opportunities for educational institutions. In *Knowledge management and higher education: A critical analysis*, pp.21-33. IGI Global.

Philip, D.C. & Burbules, N.C. 2000. *Postpositivism and Educational Research*. Rowman and Littlefield, Lanham MD.

Piaget, J. 1967. *Biologie Et Connaissance: Essai Sur Les Relations Entre Les Regulations Organiques Et Les Processus Cognitifs*, Paris: Gallimard.

Pinto, M. 2012. A framework for knowledge management systems implementation in higher education. *Advanced Research in Scientific Areas*, 3(7), pp.2078-2081.

Pirlott, A.G. & MacKinnon, D.P. 2016. Design approaches to experimental mediation. *Journal of experimental social psychology*, 66, pp.29-38.

- Polanyi, M., 2009. *The tacit dimension*. In *Knowledge in organisations*, 135-146. Routledge.
- Popper KR. 1994. *The Myth of the Framework: In Defence of Science and Rationality*. Routledge: London.
- Prabhakar, G.V., Reddy, P.R., Savinkina, L.A., Gantasala, S.B. & Ankireddy, S. 2018. Influence of organisational culture dimensions on knowledge management processes in higher educational institutions. *International Journal of Knowledge Management Studies*, 9(1), pp.51-71.
- Prince, M.J. 2016. Inclusive employment for Canadians with disabilities: toward a new policy framework and agenda. *IRPP Study*, 60, pp.1-23.
- Punch, K. F. 2009. *Introduction to research methods in education*. London: Sage publishers.
- Punch, K.F. 2014. *Introduction to social research: quantitative & qualitative approaches*. 3rd ed. California: Sage Publications.
- QCTO. 2019. Policy on accreditation of Skills Development Providers, pp.1-19.
- Quinlan, C. 2011. *Business research method*. Boston: Cengage learning.
- Quintas, P., Lefrere, P., Jones, G. 1997. Knowledge Management: A Strategic Agenda. *Long Range Planning*. 30: 385-391.
- Quora. 2023. *What are the similarities and differences between quantitative and qualitative research methodologies?* <https://www.quora.com/What-are-the-similarities-and-differences-between-quantitative-and-qualitative-research-methodologies> [Accessed 22 March 2023].
- Rafi, M., JianMing, Z. & Ahmad, K. 2020. Digital resources integration under the knowledge management model: an analysis based on the structural equation model. *Information Discovery and Delivery*, 48(4), pp.237-253.
- Rahi, S. 2017. Research design and methods: A systematic review of research paradigms, sampling issues and instruments development. *International journal of economics and management science*, 6(2), pp.1-5.
- Rahi, S. 2017. Research design and methods: A systematic review of research paradigms, sampling issues and instruments development. *International Journal of Economics & Management Sciences*, 6(2), pp.1-5.

- Rahi, S., Alnaser, F.M. & Abd Ghani, M. 2019. Designing survey research: recommendation for questionnaire development, calculating sample size and selecting research paradigms. *Economic and Social Development: Book of Proceedings*, pp.1157-1169.
- Rai, R.K. 2011. "Knowledge management and organisational culture: a theoretical integrative framework", *Journal of Knowledge Management*, 15(5), pp.779-801.
- Rajaram, S.D. 2017. *Unlocking training and skills development for sustainability in small and medium size enterprises (SMEs). An explorative South African study* [Unpublished Master's thesis], Pretoria: University of Pretoria.
- Ramjeawon, P.V. & Rowley, J. 2017. Knowledge Management in Higher Education Institutions: Enablers and Barriers in Mauritius. *The Learning Organisation*, pp.1-15.
- Ramona, T. & Alexandra, B. 2019. Knowledge retention within small and medium sized enterprises. *Studies in Business and Economics*, 14(3), pp.231-238.
- Ranjbarfard, M., Aghdasi, M., López-Sáez, P. & López, J.E.N. 2014. The barriers of knowledge generation, storage, distribution and application that impede learning in gas and petroleum companies. *Journal of Knowledge Management*, 18(3), pp.494-522.
- Rao, M. 2012. *Knowledge management tools and techniques*. Routledge.
- Rao, V.P.S. 2000. *Human resource management, text and cases. 2nd edition*, Excel Books, New Delhi India.
- Ray, G., Barney, J.B. & Muhanna, W.A. 2004. Capabilities, business processes, and competitive advantage: choosing the dependent variable in empirical tests of the resource-based view. *Strategic management journal*, 25(1), pp.23-37.
- Razmerita, L., Phillips-Wren, G. & Jain, L.C. 2016. Advances in knowledge management: an overview. *Innovations in Knowledge Management: The Impact of Social Media, Semantic Web and Cloud Computing*, pp.3-18.
- Reddy, H.B.S., Reddy, R.R.S. & Jonnalagadda, R. 2022. Literature review process: Measuring the effective usage of knowledge management systems in customer support organizations. *International Journal of Research Publication and Reviews*, 3(7), pp.3991-4009.

- Rehman, A.A. & Alharthi, K. 2016. An introduction to research paradigms. *International Journal of Educational Investigations*, 3(8), pp.51-59.
- Reinhardt, W., Schmidt, B., Sloep, P., & Drachsler, H. 2011. Knowledge Worker Roles and Actions - Results of Two Empirical Studies. *Knowledge and Process Management*, 18(3), pp.150-174.
- Remler, D.K. & Van Ryzin, G.G. 2011. *Research methods in practice: strategies for description and causation*. 2nd ed. Newark: Sage.
- Republic of South Africa. 1995. The South African Qualifications Authority Act, Act 58 of 1995. Pretoria: Government Printer.
- Republic of South Africa. 1998. Skills Development Amendment Act, Act No. 77 of 1998. Pretoria: Government Printers.
- Rhodes, J., Hung, R., Lok, P., Lien, B.Y.H & Wu, C.M 2008. Factors Influencing Organisational Knowledge Transfer: Implication for Corporate Performance, *Journal of Knowledge Management*, 12(3), pp.84–100.
- Richards, K. 2003. *Qualitative inquiry in TESOL*. New York, NY: Palgrave Macmillan
- Roberts, C.W. 2020a. *Text analysis for the social sciences: methods for drawing statistical inferences from texts and transcripts*. Routledge.
- Roberts, R.E. 2020b. Qualitative Interview Questions: Guidance for Novice Researchers. *Qualitative Report*, 25(9).
- Robson, C. 2002. *Real world research*. 2nd ed. Malden: Blackwell Publishing Ltd.
- Rolfe, G. 2006. Validity, Trustworthiness and Rigour: Quality and The Idea of Qualitative Research. *Journal of Advanced Nursing*. 53(3), pp.304–310.
- Roopa, S. & Rani, M.S. 2012. Questionnaire designing for a survey. *Journal of Indian Orthodontic Society*, 46(4\_suppl1), pp.273-277.
- Rossman, G.B. & Rallis, S.F. 2011. *Learning in the field: An introduction to qualitative research*. Sage.

- Rubenstein-Montano, B., Liebowitz, J., Buchwalter, J., McCaw, D., Newman, B., Rebeck, K., & Team, T. K. M. M. 2001. A systems thinking framework for knowledge management. *Decision support systems*, 31(1), pp.5-16.
- Rubin, A. & Babbie, B. 2011. *Research methods for social work*. 7th ed. South Western: Cengage Learning.
- Rus, I., Lindvall, M. & Sinha, S. 2002. Knowledge management in software engineering. *IEEE software*, 19(3), pp.26-38.
- Saah, P. 2019. *A framework to enhance the sustainability of Small and Medium Size Enterprises in selected municipalities of the North West Province of South Africa* [Doctoral dissertation]. Potchefstroom: North-West University.
- Sabherwal, R. & Becerra-Fernandez, I. 2013. *Business intelligence: Practices, technologies, and management*. John Wiley & Sons.
- Sadowski, J. 2019. When data is capital: Datafication, accumulation, and extraction. *Big data & society*, 6(1), pp.1-12.
- Saldaña, J., 2021. *The coding manual for qualitative researchers*. 2<sup>nd</sup> Edition. Sage. Edition. Lodon
- Samuels, P. 2017. *Advice on exploratory factor analysis*.
- Sandhawalia, B.S. & Dalcher, D. 2011. Developing knowledge management capabilities: a structured approach. *Journal of Knowledge Management*. 15(2), pp.313-328.
- Santoro, G., Vrontis, D., Thrassou, A. & Dezi, L. 2018. The Internet of Things: Building a knowledge management system for open innovation and knowledge management capacity. *Technological forecasting and social change*, 136, pp.347-354.
- Sargeant, J. 2012. Qualitative research part II: participants, analysis, and quality assurance. *Journal of graduate medical education*, 4(1), pp.1-3.
- Sarstedt, M., Ringle, C.M., Smith, D., Reams, R. & Hair Jr, J.F. 2014. Partial least squares structural equation modeling (PLS-SEM): A useful tool for family business researchers. *Journal of Family Business Strategy*, 5(1), pp.105-115.

- Satra, R., Lantara, D., Salim, Y., Azis, H. & Fattah, F., 2018, November. E-Model for Intranet VoIP Analysis. In *2018 2nd East Indonesia Conference on Computer and Information Technology (EIConCIT)*, pp.14-17). IEEE.
- Saunders, B., Sim, J., Kingstone, T., Baker, S., Waterfield, J., Bartlam, B., Burroughs, H. & Jinks, C. 2018. Saturation in qualitative research: exploring its conceptualization and operationalization. *Quality & quantity*, 52, pp.1893-1907.
- Saunders, M., Lewis, P. & Thornhill, A. 2009. *Research methods for business students*. 5th ed. Harlow: Pearson Education Limited.
- Saunders, M.N. & Lewis, P. 2012. *Doing research in business & management: An essential guide to planning your project*. London: Pearson.
- Scott, J.E., 2000. Facilitating interorganisational learning with information technology. *Journal of Management information systems*, 17(2), pp.81-113.
- Sector Education and Training Authority (SETA). 2011. *Learnership Report 2011*. Pretoria: Government Printers.
- Sekaran, U. 2003. *Research methods for business: A skill building approach*. 4th ed. New York: John Wiley & Sons, Inc.
- Sekgala, T.K. & Holtzhausen, N. 2016. An overview of training and development on performance enhancement. *African Journal of Public Affairs*, 9(1), pp.44-58.
- Serrat, O. 2017. *Notions of knowledge management*. In *Knowledge Solutions*. 291-304. Springer, Singapore.
- Services SETA. 2020. Skills development providers. Available from: <http://www.seta-training.co.za/services-seta-accredited-providers.html>. Accessed 21 May 2020.
- Shahzad, M., Qu, Y., Zafar, A.U. & Appolloni, A. 2021. Does the interaction between the knowledge management process and sustainable development practices boost corporate green innovation? *Business Strategy and the Environment*, 30(8), pp.4206-4222.
- Shakerian, H., Dehnavi, H.D. & Shateri, F. 2016. A framework for the implementation of knowledge management in supply chain management. *Procedia-Social and Behavioral Sciences*, 230, pp.176-183.

- Shan, Y. 2022. Philosophical foundations of mixed methods research. *Philosophy Compass*, 17(1), pp.1-12, DOI:101111/phc3.12804
- Shannak, R.O. 2009. Measuring Knowledge Management Performance, *European Journal of Scientific Research*, 35(2), pp.242–253.
- Sharma, B. P. & Singh, M. D. 2015. Modeling the knowledge sharing barriers: An ISM approach. *International Journal of Knowledge-Based Organizations (IJKBO)*, 5(1), pp.16-33.
- Sharma, G. 2017. Pros and cons of different sampling techniques. *International journal of applied research*, 3(7), pp.749-752.
- Shayamano, M. 2017. *An assessment of the impact of training and development on staff efficiency and service delivery in urban municipalities: The case of Chitungwiza municipality, 2013 to 2016* [Unpublished Honours dissertation] Gweru: Midlands State University.
- Shuttleworth, M. 2015. Internal Consistency Reliability. *Consistency-reliability*, 18(3), pp.66-67.
- Sikhwari, T.D., 2015. An evaluation of Orphans and Vulnerable Children (OVC) Programme in Thulamela Municipality, Limpopo Province, South Africa. *African Journal for Physical Health Education, Recreation and Dance*, 21(2), pp.461-471.
- Sileyew, K.J. 2019. *Research design and methodology*, pp.1-12. Rijeka: IntechOpen.
- Sima, V., Gheorghe, I.G., Subić, J. & Nancu, D. 2020. Influences of the industry 4.0 revolution on the human capital development and consumer behavior: A systematic review. *Sustainability*, 12(10), pp.1-28.
- Simon, F., Pauline, M. and José-Luis, Á.G., 2014. OECD Reviews of vocational education and training skills beyond school review of South Africa. OECD Publishing.
- Singh, A.S. & Masuku, M.B. 2014. Sampling techniques & determination of sample size in applied statistics research: An overview. *International Journal of economics, commerce and management*, 2(11), pp.1-22.
- Singh, R.M. & Gupta, M. 2014. Knowledge management in teams: empirical integration and development of a scale. *Journal of Knowledge Management*. 18(4), pp.777-794.
- Skills Portal. 2017. Who are the major players in skills development? [online]. Available

from: <https://www.skillsportal.co.za/content/who-are-major-players-skills-development>. [Accessed 21 May 2020].

Smit, P.J., Cronje, G.D., Brevis, T. & Vrba, M.J. 2011. *Management principles: A contemporary edition for Africa*. Juta and Company Ltd.

Smith, E.A. 2001. The role of tacit and explicit knowledge in the workplace. *Journal of Knowledge Management*, 5(4), pp.311-321.

Sokoh, G.C. & Okolie, U.C. 2021. Knowledge management and its importance in modern organizations. *Journal of Public Administration, Finance and Law*, 20(1), pp.283-300.

Soulé, H. & Warrick, T. 2015. Defining 21st century readiness for all students: What we know and how to get there. *Psychology of Aesthetics, Creativity, and the Arts*, 9(2), pp.9-20.

South African Local Government Association (SALGA), 2017. Provincial Overviews - North West. Available at: <https://www.salga.org.za/About%20Us%20NWO.html> [Accessed: 12 May 2022].

South African Qualifications Authority (SAQA). 2001. Criteria and guidelines for providers. Policy document. Pretoria: South Africa.

Stankosky, M. 2005, *Creating the Discipline of Knowledge Management*, Elsevier Butterworth-Heinemann, Oxford.

Statistics South Africa, 2016. Provincial profile: North West [Community Survey 2016], Report 03-01-11.

Stewart, V., 2015. Made in China: Challenge and Innovation in China's Vocational Education and Training System. International Comparative Study of Leading Vocational Education Systems. *National Center on Education and the Economy*, pp.1-44.

Stinder, A.K., Schelte, N. & Severengiz, S. 2022. Application of Mixed Methods in Transdisciplinary Research Projects on Sustainable Mobility. *Sustainability*, 14(11), pp.1-25.

Struwig, F.W. & Stead, G.B. 2013. *Research: planning, designing and reporting*. Pretoria: Pearson Education.

Sun Ra, Y. S. 2009. The Korean Case Study: Past Experience and New Trends in Training Policies. *SP Discussion Paper*, pp.1-96.

Sunassee, N.N. & Sewry, D.A. 2002. A theoretical framework for knowledge management implementation. In *Proceedings of the 2002 annual research conference of the South African institute of computer scientists and information technologists on Enablement through technology*, pp.235-245.

Sundiman, D., Idrus, M.S., Troena, E.A. and Rahayu, M. 2013. The Role of Knowledge Management on Individu, the Community and the Organisation. *Journal of Business and Management (IOSR-JBM)*, pp.47-54.

Surgey, G.G. 2020. *An investigation on the expenditure and number trained by big companies in South Africa* [Masters dissertation]. Johannesburg: University of Witswatersrand.

Svare, H., Gausdal, A.H. & Möllering, G. 2020. The function of ability, benevolence, and integrity-based trust in innovation networks. *Industry and Innovation*, 27(6), pp.585-604.

Swedish International Development Cooperation Agency (SIDA), 2018. Skills development. Information briefing.

Taherdoost, H. 2016. Sampling methods in research methodology; how to choose a sampling technique for research. *How to choose a sampling technique for research? International Journal of Academic Research in Management (IJARM)* 5(2), pp.18-27.

Taherdoost, H. 2016. Validity and Reliability of the Research Instrument; How to Test the Validation of a Questionnaire/Survey in a Research. *International Journal of Academic Research in Management (IJARM)*, 5(3), pp.28-36.

Taherdoost, H., 2021. Data Collection Methods and Tools for Research; A Step-by-Step Guide to Choose Data Collection Technique for Academic and Business Research Projects. *International Journal of Academic Research in Management (IJARM)*, 10(1), pp.10-38.

Talebian, M. 2013. Knowledge management: Benefits and its advantages. *International Research Journal of Applied and Basic Sciences*, 6(1), pp.114-119.

Tallman, S., Jenkins, M., Henry, N. & Pinch, S. 2004. Knowledge, clusters, and competitive advantage. *Academy of management review*, 29(2), pp.258-271.

- Tan, H., Carrillo, P. & Anumba, C.J. 2012. Case study of knowledge management implementation in a medium-sized construction sector firm. *Journal of Management in Engineering*, 28(3), pp.338-347.
- Tan, S., Teo, H.H., Tan, B. & Wei, K.K. 1998. Developing a preliminary framework for knowledge management in organisations. *AMCIS 1998 Proceedings*, pp.211.
- Tashakkori, A. & Teddlie, C. 1998. Mixed methodology: Combining qualitative and quantitative approaches 46, Sage.
- Tashakkori, A. & Teddlie, C. 2003. Handbook of Mixed Methods in Social & Behavioral Research (Eds), Sage, California.
- Tavakol, M. & Dennick, R. 2011. Making sense of Cronbach's alpha. *International journal of medical education*, 2, pp.53-55.
- Thye, S.R. 2014. Logical and philosophical foundations of experimental research in the social sciences. In *Laboratory experiments in the social sciences*, pp.53-82. Academic Press.
- Tiwana, A. 2000. *The knowledge management toolkit: practical techniques for building a knowledge management system*. Prentice hall PTR.
- Tiwari, S.P. 2022. Knowledge Management Strategies and Emerging Technologies--An Overview of the Underpinning Concepts. *arXiv preprint arXiv:2205.01100*.
- Tobin, G.A. and Begley, C.M. 2004. Methodological rigour within a qualitative framework. *Journal of advanced nursing*, 48(4), pp.388-396.
- Toszevska-Czerniej, W. 2015. Knowledge management model. *Polish Journal of Management Studies*, 12, 180-190
- Tracy, S.J., 2019. *Qualitative research methods: Collecting evidence, crafting analysis, communicating impact*. John Wiley & Sons.
- Tseng, S.M. & Lee, P.S. 2014. The effect of knowledge management capability and dynamic capability on organizational performance. *Journal of Enterprise Information Management*, 27(2), pp.158-179.

Tshilongamulenzhe, M.C. 2015. Developing and validating a measure of monitoring and evaluation for the South Africa skills development context. *Foundations of Management*, 7, pp.225-238.

Tubigi, M. & Alshawi, S. 2015."The impact of knowledge management processes on organisational performance", *Journal of Enterprise Information Management*, 28(2), pp.167-185.

Tuck, R. 2007. An introductory guide to national qualifications frameworks: Conceptual and Practical Issues for Policy Makers. *ILO*, pp.1- 72.

Turban, E., Sharda, R. & Delen, D. 2010. *Decision Support and Business Intelligence Systems* (9th ed.), Prentice-Hall.

Underwood, M.A. 2017. Intranet exploitation of social network knowledge intelligence. *Harnessing social media as a knowledge management tool*, pp.273-298.

UNDP IICPSD, 2018. Best Practices Guidelines and Toolkit on Engaging the Private Sector in Skills Development – United Nations Development Programme Istanbul International Center for Private Sector in Development (UNDP IICPSD), The Statistical, Economic and Social Research and Training Centre for Islamic Countries (SESRIC), pp.1-227.

Unger, R.M., 2019. *The knowledge economy*. Verso Books.

Uysal, S & Madenoglu, C. 2015. A content analysis of scientific research studies on Technology Leadership in Turkey, *Procedia- Social and Behavioural Sciences*. 191(2), pp.37-43.

Valmohammadi, C. & Ahmadi, M. 2015. The impact of knowledge management practices on organisational performance. *Journal of Enterprise Information Management*. 28(1), pp.131–159.

Van de Ven, A.H. & Johnson, P.E. 2006. Knowledge for theory and practice. *Academy of management review*, 31(4), pp.802-821.

Vasudevan, H. & Chawan, A. 2014. Demystifying knowledge management in Indian manufacturing SMEs. *Procedia Engineering*, 97, pp.1724-1734.

Viljoen, F. 2007. *Sustainability indicators for monitoring tourism route development in Africa* [Doctoral dissertation] Stellenbosch: University of Stellenbosch.

W&RSETA. 2013. Sector Skills Plan 2013–14 Update. Centurion: W&RSETA.

Wagner, C., Kawulich, B. & Garner, M. 2012. *Doing social research: a global context*. New York: McGraw Hill.

Wang, M.-H., & Yang, T.Y. 2016. Investigating the success of knowledge management: An empirical study of small and medium-sized enterprises, *Asia Pacific Management Review*. <http://dx.doi.org/10.1016/j.apmr.2015.12.003>

Wang, S. & Chin, T. 2020. A stratified system of knowledge and knowledge icebergs in cross-cultural business models: Synthesising ontological and epistemological views. *Journal of International Management*, 26(4), pp.100780.

Ward, M. 2018. Case Study: Private Providers and NSDS III, pp.1-29.

Wedekind, V. 2013. Rearranging the furniture? Shifting discourses on skills development and apprenticeship in South Africa. *Apprenticeship in a globalised world: Premises, promises and pitfalls*, pp.37-48.

Welford, C., Murphy, K. & Casey, D. 2011. Demystifying Nursing Research Terminology—Part 1. *Nurse Researcher*. 18(4), pp.40-44.

Welman. C., Kruger, F. & Mitchell, B. 2005. *Research methodology*. 3rd ed. Cape Town: Oxford University.

Wen, J. & Ma, R. 2021. Antecedents of knowledge hiding and their impact on organisational performance. *Frontiers in Psychology*, 5891.

Wiig, K.M. 1997. Knowledge management: an introduction and perspective. *Journal of knowledge Management*, 1(1), pp.6-14.

Wijethilake, C. 2017. Proactive sustainability strategy and corporate sustainability performance: The mediating effect of sustainability control systems. *Journal of environmental management*, 196, pp.569-582.

Wilson, R.A., Tarjani, H. & Rihova, H. 2016. Working at sectoral level: guide to anticipating and matching skills and jobs. *European Training Foundation / European Centre for the Development of Vocational Training / International Labour Office*, 3, pp.1-164.

Wisdom, J. & Creswell, J.W. 2013. Mixed methods: Integrating quantitative and qualitative data collection and analysis while studying patient-centred medical home models. *Rockville: Agency for Healthcare Research and Quality*.

Wong, K.Y. & Aspinwall, E. 2004. Knowledge management implementation frameworks: a review. *Knowledge and process management*, 11(2), pp.93-104.

Wong, K.Y., Tan, L.P., Lee, C.S. & Wong, W.P. 2015. Knowledge management performance measurement: measures, approaches, trends and future directions. *Information Development*, 31(3), pp.239-257.

Wu, C.C., Wu, C.H., Li, C.C. & Huang, T.H. 2011. Drivers of organizational knowledge management. *African Journal of Business Management*, 5(11), pp.4388-4402.

Wu, L. & Chen, J.L. 2014. Knowledge management driven firm performance: the roles of business process capabilities and organisational learning. *Journal of Knowledge Management*. 18(6), pp.1141-1164.

Yamoah E. E.2014. An examination of staff training at valley View University: *International Journal of Research in Social Sciences*, 4(3), pp.27-41.

Yang, D. Y. 2011. The Effect of Knowledge Management on Product Innovation - Evidence from the Chinese Software Outsourcing Vendors. *iBusiness*, 3, pp.16-22.

Yates, D. & Paquette, S. 2011. Emergency knowledge management and social media technologies: A case study of the 2010 Haitian earthquake. *International journal of information management*, 31(1), pp.6-13.

Yeh, Y.J., Lai, S.Q. & Ho, C.T. 2006. Knowledge management enablers: a case study. *Industrial Management & Data Systems*, 106(6), pp.793-810.

Yilmaz, K. 2013. Comparison of quantitative and qualitative research traditions: Epistemological, theoretical, and methodological differences. *European journal of education*, 48(2), pp.311-325.

Young, R. & Collin, A. 2004. Introduction: Constructivism and Social Constructionism in the Career Field. *Journal of Vocational Behavior*. 6(3), pp.373–388.

Yu, S.H., Kim, Y.G. & Kim, M.Y. 2004. Linking organizational knowledge management drivers to knowledge management performance: An exploratory study. In *Proceedings of the Hawaii International Conference on System Sciences*, Institute of Electrical and Electronics Engineers Inc. 37, pp.3697-3706.

Zaim, H., Muhammed, S. & Tarim, M. 2019. Relationship between knowledge management processes and performance: critical role of knowledge utilization in organizations. *Knowledge Management Research & Practice*, 17(1), pp.24-38.

Zhao, Z. 2016. Developing a training system taking into consideration the Chinese culture [Bachelor's thesis] Hämeenlinna: HAMK Hame University of applied sciences.

Zins, C. 2007. Conceptual approaches for defining data, information, and knowledge. *Journal of the American society for information science and technology*, 58(4), pp.479-493.

Zohrabi, M. 2013. Mixed method research: Instruments, validity, reliability and reporting findings. *Journal of Theory and Practice in Language Studies*, 3(2), pp.254-262.

## **APPENDIX A: Informed consent**



North-West University  
Potchefstroom Campus  
11 Hoffman Street  
Potchefstroom  
2531

### **Informed consent for participation in an academic research study**

#### **TITLE OF STUDY**

**Developing a framework for the implementation of knowledge management within  
skills development providers in South Africa**

#### **PRIMARY RESEARCHER**

Ralebitso Kenneth Letshaba  
University number: 24542954  
083 800 0060  
kletshaba@gmail.com

#### **Promoter**

Dr Kaizer Ndlovu  
North-West University  
(018) 299 4023  
35181680@nwu.ac.za

Dear Participant/ Respondent

You are hereby invited to take part in an academic research study conducted by Ralebitso Kenneth Letshaba a Doctoral student from the Faculty of Economic and Management Sciences at the North West University, Potchefstroom Campus. The purpose of the study is to develop a framework for the implementation of knowledge management within skills development providers within South Africa. Attached with this letter is a questionnaire and interview questions that requires you to respond to a series of statements. May I emphasise that your participation is voluntary and confidential.

Thank you in advance for your valuable time and effort taken in this study.

**Please note the following:**

- Every effort will be made by the researcher to preserve your confidentiality. Please do not write any information that will identify you.
- Your participation in this study is voluntary and very important. It is up to you to decide whether or not to take part in this study. If you decide to take part in this study, you will be asked to sign a consent form. After you sign the consent form, you are still free to withdraw at any time and without giving a reason.
- If you have questions at any time about this study, you may contact the researcher whose contact information is provided above on the page.
- Any personal identifying information such as demographics will remain confidential.
- Any personal information such as demographics is asked to allow the researcher to define the total sample to future readers and will remain confidential.
- There will be no negative consequences for you if you do not complete the survey.
- Results will only be used and presented in an anonymised format from the total sample. Therefore, your results will not be presented or released at any time.
- By completing this survey or interviews, you agree that the information you provide can be used for research purposes.
- There are no correct or incorrect answers to any of the questions in this booklet.
- The data collected from the survey will be used for research purposes.
- This study will be sent to Economic and Management Sciences Research Ethics Committee (EMS-REC) which reserves the right to audit this study to ensure compliance.
- The booklets and interview data will be securely stored at the University when collected.

I have read and I understand the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost.

I voluntarily agree to take part in this study.

---

**Participant's/ Respondent's Signature**

---

**Date**

---

**Researcher's Signature**

---

**Date**

## APPENDIX B: Questionnaire

This questionnaire consists of six sections: Section A consists of demographic information and Section B evaluates knowledge management practices. Kindly choose the response for each statement that best describes your situation.

### SECTION A: DEMOGRAPHIC INFORMATION

Kindly choose the single answer that best describes your status by crossing (x) in the relevant block.

1.	<b>Age</b>	Under 20 years	21-30 years	31-40 years	41-50 years	51 years and over
----	------------	----------------	-------------	-------------	-------------	-------------------

2.	<b>Highest qualification currently</b>	Certificate	Matric	Diploma	Degree	Masters	Doctoral
----	--	-------------	--------	---------	--------	---------	----------

3.	<b>Working experience</b>	<1 year	Between 1 year and 2 years	Between 2 years and 3 years	Between 3 years and 4 years	Between 5 years and 10 years	Over 10 years
----	---------------------------	---------	----------------------------	-----------------------------	-----------------------------	------------------------------	---------------

4.	<b>Job title</b>	Administrator	Facilitator	Assessor	Moderator	Quality Assurer
----	------------------	---------------	-------------	----------	-----------	-----------------

### SECTION B:

#### CATEGORIES OF KNOWLEDGE

Please tick the relevant box for your response

5.	Are you familiar with or understand the concept of knowledge management?	YES	NO
----	--	-----	----

6.	What categories/types of knowledge are available in the organisation?	Tacit knowledge	
		Explicit knowledge	
		Tacit and explicit knowledge	

## KNOWLEDGE MANAGEMENT (KM) ASSESSMENT

The following statements describe the knowledge management assessment, in your organisation. This assessment will focus on the following features, specifically: KM Processes, Leadership, Culture, Technology, Measurement. Please use the rating scale below to express the degree to which you (strongly disagree, disagree, neutral, agree, and strongly agree) with each statement. Choose a single answer by crossing (x) in the relevant block.

### 7. Knowledge Management Processes

KM processes include the creation, capturing, storing, sharing, and effective use of knowledge in the organisation.		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	Knowledge management as a practice is given attention or spoken about in the organisation	1	2	3	4	5
2.	There is a practice of knowledge management in the organisation	1	2	3	4	5
3.	I contribute to the creation of knowledge in the organisation	1	2	3	4	5
4.	The organisation has a means of capturing experts' (professional) knowledge while in the organisation	1	2	3	4	5
5.	There are systems in place that capture expertise knowledge when exiting from the organisation	1	2	3	4	5
6.	There are means to capture informal knowledge (outside training/meetings) from staff of the organisation	1	2	3	4	5
7.	The organisation has an institutional repository (knowledge storage system) in place to facilitate the capturing and storage of knowledge in the organisation.	1	2	3	4	5
8.	Knowledge created in the organisation is captured and stored in a repository or an easy to find location	1	2	3	4	5
9.	There is easy access to knowledge created in the organisation	1	2	3	4	5
10.	Sharing of knowledge across departments is easy	1	2	3	4	5

## 8. Knowledge Management Leadership

KM leadership refers to the role that leaders and managers play in supporting KM process in the organisation.		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	The power of intellectual capacity is recognised and valued	1	2	3	4	5
2.	We are motivated to create and share knowledge	1	2	3	4	5
3.	We are evaluated for knowledge generation and sharing	1	2	3	4	5
4.	There is a clear articulated KM vision in the organisation	1	2	3	4	5
5.	The organisation has enthusiastic knowledge champions (staff who push for knowledge creation and sharing)	1	2	3	4	5
6.	Management promotes good teamwork with staff drawn from various disciplines	1	2	3	4	5
7.	Management have a culture of openness and transparency with staff to stimulate innovation and learning	1	2	3	4	5

## 9. Knowledge Management Culture

KM culture refers to the norms/traditions of knowledge creation and sharing within the organisation.		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	We generally trust each other to share knowledge within the organisation.	1	2	3	4	5
2.	There is a willingness to collaborate and share knowledge across the organisation.	1	2	3	4	5

## 10. Knowledge Management Technology

KM technology refers to the technologies (tools/infrastructure) that an organisation uses to support KM processes		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	The organisation has an IT infrastructure to support KM process	1	2	3	4	5
2.	The IT infrastructure supports easy access to knowledge	1	2	3	4	5
3.	The organisation has appropriate technologies such as intranets and portals through which I can upload and share content	1	2	3	4	5
4.	I am able to collaborate with other persons outside the organisation	1	2	3	4	5
5.	The technology makes training, research, and learning in the organisation easy	1	2	3	4	5

## 11. Knowledge Management Measurement

KM Measurement refers to the steps an organisation takes to check the effectiveness and impacts of KM in the organisation.		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	The organisation uses KM to widen the array (line/range) of programmes/courses offered	1	2	3	4	5
2.	The organisation uses knowledge to solve problems	1	2	3	4	5
3.	The organisation uses knowledge to improve efficiency	1	2	3	4	5
4.	The KM practice have a positive impact on training, research, innovation, and learning in the organisation	1	2	3	4	5
5.	The e-learning system have a positive impact on training, research, innovation, and learning in the organisation	1	2	3	4	5

6.	The Community of Practice system have a positive impact on training, research, innovation, and learning in the organisation	1	2	3	4	5
----	---	---	---	---	---	---

## 12. Drivers for Knowledge Management

Please indicate the extent to which the following drivers of knowledge management are implemented in the organisation.		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	Building up and maintaining employees' expertise and skills	1	2	3	4	5
2.	Sharing employees' expertise and perceptions	1	2	3	4	5
3.	Identifying internal and or external best practices	1	2	3	4	5
4.	Reducing cost and or time to solve problems in projects	1	2	3	4	5
5.	Enhancing work quality of projects	1	2	3	4	5
6.	Providing competitive advantages of the company	1	2	3	4	5
7.	Helping managers to avoid many problems causes	1	2	3	4	5
8.	Presenting accurate and timely knowledge to facilitate decision making	1	2	3	4	5
9.	Enhancing relation and coordination with customers, partners and suppliers	1	2	3	4	5
10.	Encouraging continuous improvement and or new products and services	1	2	3	4	5
11.	Reducing rework and save time of solving repeated problems	1	2	3	4	5

## 13. System tools that facilitate Knowledge Management

Please indicate the extent to which the following systems tools are used to facilitate effective communication and collaboration among staff of the organisation.		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	User manuals	1	2	3	4	5
2.	Data mining, Analysis and Reporting	1	2	3	4	5
3.	Documents Management	1	2	3	4	5
4.	Photos and or Videos Management	1	2	3	4	5
5.	Training and Support (Online learning)	1	2	3	4	5
6.	Knowledge searching	1	2	3	4	5
7.	Knowledge map	1	2	3	4	5
8.	Telephone directory or Contact list	1	2	3	4	5
9.	Subscriptions	1	2	3	4	5
10.	Online Meeting, Messaging and Boardroom discussions	1	2	3	4	5
11.	Decision support systems	1	2	3	4	5

#### 14. Specifications of the Knowledge Management

Please indicate the extent to which the following specifications of the KM system are used to facilitate knowledge management implementation in the organisation.		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	The knowledge system is easy to use	1	2	3	4	5
2.	It is easy for users to find useful information for problem solving	1	2	3	4	5
3.	The system collects knowledge that is important for the organization	1	2	3	4	5
4.	The system ignores knowledge that is not important for the organization	1	2	3	4	5
5.	The system facilitates knowledge sharing between organisation's employees	1	2	3	4	5
6.	The system maintains good relationships with customers and other partners	1	2	3	4	5
7.	The role of knowledge team and knowledge workers is very important	1	2	3	4	5

#### 15. Knowledge Management Barriers and Challenges

Please indicate the extent to which the following KM barriers and challenges are prevalent in the organisation.		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	The nature of skills development projects (e.g. non-repetitive work, no standard procedure for activities, pressure to complete on schedule, changing employees in different phases, etc.)	1	2	3	4	5
2.	Lack of organisational culture for knowledge creation and sharing (e.g. building trust among employees, establishing times and places for knowledge transfer, provide incentives, accept and reward creative errors, etc.)	1	2	3	4	5
3.	Lack of structured procedures and processes to implement KM	1	2	3	4	5
4.	Lack of the adoption of well formulated KM strategies and implementation frameworks	1	2	3	4	5
5.	Lack of knowledge manager or a team to implement strategy	1	2	3	4	5
6.	Lack of awareness of the importance of KM in skills development providers	1	2	3	4	5
7.	Lack of training and support	1	2	3	4	5
8.	Lack of technology and techniques for knowledge capture and sharing	1	2	3	4	5
9.	Lack of leadership support	1	2	3	4	5

10.	Lack of resources in terms of a budget, staff, and IT infrastructure	1	2	3	4	5
11.	Employee resistance to share their knowledge	1	2	3	4	5
12.	Lack of post-project reviews and project documentation	1	2	3	4	5

**16. Critical Success Factors of KM systems**

Which of the following is/are the most contributing factor(s) to the effectiveness of KM process in the organisation?	Leadership	
	Culture	
	Technology	
	Strategies	

Thank you for your participation!

## APPENDIX C: Interview schedule

### SECTION A: Background and General Information

Position/ rank:	
Age:	
Highest qualification:	
Working experience	

### SECTION B:

#### 1. Knowledge Management Processes

- a) What categories/types of knowledge are available at the organisation?
- b) Is knowledge management (KM) as a practice given attention or spoken about in the organisation?
- c) What are the sources of knowledge acquisition in the organisation?
- d) What are the knowledge creation processes and systems available in the organisation?
- e) How is expert knowledge retained in the organisation?
- f) Is knowledge easily accessible in the organisation?

#### 2. Knowledge Management Leadership

- a) Does the leadership of the organisation recognise and value knowledge as a strategic asset?
- b) What policies and rewards/incentives are available to support KM in the organisation?

#### 3. Knowledge Management Culture

- a) Is there a learning culture at the organisation (people learning on their own and helping one another learn)?
- b) Does trust and openness permeate in the organisation?

#### 4. Knowledge Management Technology

- a) Is there a proper ICT infrastructure to support KM processes?

- b) Is there a knowledge repository available in the organisation?
- c) What tools/systems are often used to facilitate KM in the organisation?

**5. Knowledge Management implementation**

- a) Does your company have a strategy for implementing KM? If so, what does it include?
- b) What are the factors that promote the successful implementation of KM system in the organisation?
- c) What are the barriers to the effective implementation of KM systems in the organisation?

Thank you for your cooperation!

## APPENDIX D: Ethical clearance letter



Private Bag X1290, Potchefstroom  
South Africa 2520

Tel: 018 299-1111/2222  
Fax: 018 299-4910  
Web: <http://www.nwu.ac.za>

Senate Committee for Research Ethics  
Tel: 018 299-4849  
Web: [Feziwe.Mseleni@nwu.ac.za](mailto:Feziwe.Mseleni@nwu.ac.za)

21 November 2022

### ETHICS APPROVAL LETTER OF STUDY

Based on approval by the **Economic and Management Sciences Research Ethics Committee (EMS-REC)** on 30/9/2022, Round Robin, the Economic and Management Sciences Research Ethics Committee hereby **approves** your study as indicated below. This implies that the North-West University Senate Committee for Research Ethics (NWU-REC) grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the study may be initiated, using the ethics number below.

**Study title: Developing a framework for knowledge management implementation within skills development providers in South Africa**  
**Study Leader/Supervisor (Principal Investigator)/Researcher): Dr K Ndlovu – PHD in Business Administration**  
**Student: Letshaba, RK (24542954)**

**N W U - 0 1 8 3 0 - 2 2 - A 4**

Institution Study Number Year Status  
Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation

**Application Type:**

**Commencement date: 21/11/2022**

**Risk:** **Low**

**Expiry date: 21/11/2023**

**Approval of the study is initially provided for a year, after which continuation of the study is dependent on receipt and review of the annual (or as otherwise stipulated) monitoring report and the concomitant issuing of a letter of continuation.**

**Special in process conditions of the research for approval (if applicable):**

**General conditions:**

*While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, the following general terms and conditions will apply:*

- *The study leader/supervisor (principle investigator)/researcher must report in the prescribed format to the EMS-REC:
  - annually (or as otherwise requested) on the monitoring of the study, whereby a letter of continuation will be provided, and upon completion of the study; and
  - without any delay in case of any adverse event or incident (or any matter that interrupts sound ethical principles) during the course of the study.*
- *The approval applies strictly to the proposal as stipulated in the application form. Should any amendments to the proposal be deemed necessary during the course of the study, the study leader/researcher must apply for approval of these amendments at the EMS-REC, prior to implementation. Should there be any deviations from the study proposal without the necessary approval of such amendments, the ethics approval is immediately and automatically forfeited.*
- *Annually a number of studies may be randomly selected for an external audit.*

- *The date of approval indicates the first date that the study may be started.*  
*In the interest of ethical responsibility, the NWU-SCRE and EMS-REC reserves the right to:*
  - *request access to any information or data at any time during the course or after completion of the study;*
  - *to ask further questions, seek additional information, require further modification or monitor the conduct of your research or the informed consent process;*
  - *withdraw or postpone approval if:*
    - *any unethical principles or practices of the study are revealed or suspected;*
    - *it becomes apparent that any relevant information was withheld from the EMS-REC or that information has been false or misrepresented;*
    - *submission of the annual (or otherwise stipulated) monitoring report, the required amendments, or reporting of adverse events or incidents was not done in a timely manner and accurately; and / or*
    - *new institutional rules, national legislation or international conventions deem it necessary.*

The EMS-REC would like to remain at your service as scientist and researcher, and wishes you well with your study. Please do not hesitate to contact the EMS-REC or the NWU-SCRE for any further enquiries or requests for assistance.

Yours sincerely,

Mark  
Rathbone

Digitally signed by Mark  
Rathbone  
DN: cn=Mark Rathbone,  
o=North-West University,  
ou=Business management,  
email=mark.rathbone@nwu.ac.za  
, c=ZA  
Date: 2022.11.22 07:24:39 +02'00'

**Prof Mark Rathbone**  
**Chairperson: NWU Economic and Management Sciences Research Ethics Committee**

## APPENDIX E: Language editing letter

To whom it may concern

Cecile van Zyl  
Language editing and translation  
Cell: 072 389 3450  
Email: Cecile.vanZyl@nwu.ac.za

13 November 2023

Dear Mr / Ms

Re: Language editing of thesis (Developing a framework for the implementation of knowledge management within Skills Development Providers in South Africa)

I hereby declare that I language edited the above-mentioned thesis by RK Letshaba (student number: 24542954).

Please feel free to contact me should you have any enquiries.

Kind regards



Cecile van Zyl

Language practitioner

BA (PU for CHE); BA honours (NWU); MA (NWU)  
SATI number: 1002391