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Business Organisation Knowledge Management Integrated Social Ontology (BOKMISO) Framework for the Telecommunication Industry in Saudi Arabia and the Gulf States

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ABSTRACT

Understanding knowledge management is critical for organisations because the persons concerned are not trained adequately to access, use and benefit from this knowledge effectively. The main problem is that the workers themselves do not understand how to organize and manage a huge amount of knowledge capital has, and the importance of this to improve organizational performance. This research is based on understanding the importance of knowledge management practices and policies within an organisation. This is based on research to understand the importance of knowledge management practices and policies within the organization. This research focuses on building a framework based on the knowledge of social issues within the organization and its impact on business. This research will explore strategies that can be used for organizations in order to integrate this knowledge into their business social benefit from social ontology..

To enable this framework, a business organization knowledge management integrated social ontology framework (BOKMISO) was built with a focus on telecommunications industry in Saudi Arabia and the Gulf states. In order to understand the social aspects of an organisation, a social ontology was developed which was incorporated into the knowledge management framework. The BOKMISO framework was evaluated with case studies, within telecommunication companies, in Saudi Arabia and the Gulf states.

The employees of these companies contributed in data collection activity via questionnaire, whereas the managers of these companies contributed via semi-structured interview.

Results that were gathered from data collection showed that BOKSIMO framework was valid, appropriate, useful and added value to an organisation. Further work can be done to apply the BOKMISO within other telecommunications companies in Saudi Arabia.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	2
ABSTRACT	3
List of Figures.....	9
List of Tables	13
CHAPTER ONE: INTRODUCTION	16
1.1. Introduction.....	16
1.2. Research Motivation.....	16
1.3. Research Outline	17
1.3.1. Research Aims	17
1.3.2. Research Objectives	17
1.3.3. Research Questions	18
1.3.4. Scope.....	18
1.4. Structure of the Thesis	20
CHAPTER TWO: LITERATURE REVIEW.....	22
2.1. Introduction to Literature Review	22
2.2. Definition of Knowledge	22
2.3. Types of Organisational Knowledge	27
2.3.1. Explicit Knowledge	27
2.3.2. Intrinsic Knowledge	28
2.4. Knowledge Management (KM)	29
2.5. Functions of the Knowledge management	31
2.6. The Need for Knowledge Management.....	31
2.7. Critical Success Factors for KM	33
2.8. Benefits of Knowledge Management	34
2.9. Knowledge Management Technology and Tools	36
2.9.1. Intranet	37
2.9.2. Data Warehouses	37
2.9.3. Groupware	37
2.9.4. Communities of Practice	37
2.9.5. Knowledge Based Systems	38
2.9.6. Intelligent Agents.....	38
2.10. Soft System for the KM.....	39

2.10.1.	Change Management.....	39
2.11.	Knowledge Management Plan	39
2.11.1	Employee Education and Training	40
2.11.2	Benchmarking.....	40
2.11.3	Implementation Strategies	41
2.12.	Framework of the Knowledge Management Pillars	44
2.13.	Framework for the Knowledge Organisation.....	45
2.14.	Framework of Knowledge Management Stages	46
2.14.1.	Precise Framework.....	47
2.14.2.	Framework of Knowledge Conversions.....	47
2.14.3.	Model of Intellectual Capital	48
2.15.	Model of Knowledge Management Process	49
2.16.	Comparative Analysis of the Descriptive Framework	50
2.16.1.	Focus	50
2.16.2.	Framework Genesis	51
2.16.3.	Knowledge Manipulation Activities	52
2.17	Social Ontology And Knowledge Management Introduction.....	53
2.17.1	The Social Ontology	53
2.17.2	Knowledge Management.....	56
2.17.3	Types of Knowledge	56
2.17.4	Explanation of the Concept of Knowledge Management	57
2.17.5	The Purpose of Knowledge Management within the Enterprises	59
2.17.6	Social Ontology for Knowledge Management Systems	63
2.17.7	KM Interlinked with the Social Ontological Framework	64
2.18.	Summary	65
CHAPTER THREE: Business Organisation Knowledge Management: A Social Ontology Framework BOKMSOF		67
3.1.	Introduction.....	67
3.1.1.	Social Ontology	68
3.2.	Foundation of the BOKMISO Framework	76
3.3.	Theories Applied on the BOKMISO Framework.....	77
3.3.1.	Organisational Structure.....	77
3.3.2.	Organisational Culture	81

3.3.3.	Knowledge Management Information Systems Strategies, Techniques, Mechanisms and Workflow	84
3.3.4.	Action Research Case study in the Saudi Telecommunications Industrial Sector to evaluate the BOKMISO	87
3.4.	Hypotheses of the Research	88
3.4.1.	Organisational Culture Variables	90
3.5.	Conclusion	93
CHAPTER FOUR: RESEARCH METHODOLOGY		94
4.1.	Introduction	94
4.2.	Research Philosophy	94
4.3.	Research Approach	99
4.3.1.	Inductive Research Approach	100
4.3.2.	Deductive Research Approach	101
4.4.	Research Design	102
4.4.1.	Exploratory Research	103
4.4.2.	Descriptive Research	104
4.4.3.	Explanatory (causal) Research	104
4.4.4.	Interrelation of Research Design	106
4.5.	Research Strategy	107
4.5.1.	Survey Methods	109
4.5.2.	Methods Applied in Current Study	110
4.6.	Research Time Dimensions	112
4.7.	Sampling Methods for the Research	113
4.7.1.	Sampling Population	113
4.7.2.	Sampling Frame	114
4.7.3.	Sampling Size	114
4.7.4.	Sampling Techniques	115
4.7.5.	Determination of Sample Size	118
4.8.	Instruments of Data Collection	119
4.8.1.	Quantitative Instrument	120
4.8.1.1.	Development of Questionnaires	120
4.8.2.	Pilot Study	127
4.8.3.	Questionnaire Revision	128
4.9.	Qualitative Instruments of Data Collection	129

4.9.1.	Research based on Case Studies	129
4.9.2.	Interview Methods	129
4.9.2.1	Validity and Reliability of Interview	137
4.9.2.2	Methods of Interviewing in Major Studies	137
4.10.	Data Analysis	132
4.11.	Ethical Considerations	133
4.12.	Conclusion	134
CHAPTER FIVE: ANALYSIS AND RESULTS		136
5.1	Introduction	136
5.2	Quantitative Analysis.....	136
5.2.1	Descriptive Statistics and Frequencies	137
5.2.2	Descriptive Frequencies	143
5.2.3.	Regression Analysis.....	201
5.2.4.	Multiple Regression	207
5.2.5	Correlation.....	208
5.2.6.	Conclusion of Quantitative Analysis	209
5.3.	Qualitative Analysis	210
5.3.1.	Thematic Analysis	211
5.3.1.1	Knowledge Management.....	000
5.3.1.2.	Knowledge as Asset Based.....	211
5.3.1.3	Perception of Knowledge Management	211
5.3.1.4	Stored Knowledge in Company	211
5.3.1.5	Attitude of Senior Management.....	211
5.3.1.6	Culture and employee habits in relation to KM	211
5.3.1.7	Social Issues	218
5.3.1.8	Effectiveness of Organisation based on Addressing Social Issues.....	219
5.3.2.9.	Conclusion of Interview	219
CHAPTER SIX: DISCUSSIONS AND FINDINGS		220
6.1.	Introduction.....	220
6.2.	Results of the Hypotheses in direct relation to the Case Study with the three Saudi telecommunications companies (STC, Mobily, Zaen)	221
6.3.	Discussion of Quantitative Research.....	222
6.3.1	.Discussion of Demographic Information.....	222

6.3.2.	Discussion of Descriptive Frequencies	227
6.3.3.	Conclusion of Quantitative Analysis	285
6.4.	Discussion of Qualitative Analysis	286
6.4.1.	Knowledge Management – Importance of Knowledge Management	286
6.4.2.	Knowledge Management – Internet, Intranet and Extranet as a Source of Knowledge Sharing	287
6.4.3.	Knowledge Management – Structure of Organisation and Knowledge Management Activities	288
6.4.4.	Knowledge Management – Skills and Capabilities Required in Problem Solving	289
6.4.5.	Control and Coordination within Employees and Managers through KM	290
6.4.6.	Effective Teamwork Performances through KM Abilities and Skills	290
6.5.	Conclusion	293
CHAPTER SEVEN: CONCLUSIONS AND IMPLICATIONS		294
7.1.	Conclusions	294
7.1.1.	Findings Related to Research Questions	298
7.1.1.1.	Research Question 1	299
7.1.1.2.	Research Question2	299
7.1.1.3.	Research Question3	299
7.1.1.4.	Research Question 4.....	300
7.2.	Theoretical Implications	301
7.3.	Practical Implications	302
7.4.	Recommendations	303
7.5.	Future Direction	305
7.6.	Research Limitations	306
7.7.	Understanding Business Organisation Knowledge Management Integrated with with A Social Ontology.....	307
REFERENCES LIST		308
APPENDICES		316
Appendix 1		316
Questionnaire		316
1.	What is the current status of Knowledge Management in your company?.....	317
Semi-Structured Interview.....		328
Appendix Two.....		329
Interview Transcription		329

List of Figures

Figure 2.1 Nonaka (1991) Knowledge Spiral exploring the relationship between tacit and explicit knowledge.	24
Figure 2.2 Relationship between ‘historical’, contextual components and context (Thompson & Walsham, 2008, p. 742).....	24
Figure 2.3 Collaborative Cognition Model by Salisbury & Pass (2001, p. 460).....	28
Figure 2.4 Architecture of a Knowledge Management Episode (Holsapple & Joshi, 2003, p. 398).	32
Figure 2.5 Knowledge management Pillars (Wiig, 1993).....	45
Figure 2.6 Model of Knowledge Organisation (Choo, 1996)	46
Figure 2.7 A Framework of KM (Van der Spek & Spijkervet, 1997)	47
Figure 2.8 Spinal of Organisational Creation (Nonaka, 1994).....	48
Figure 2.9 Intellectual Capital Model (Petrash, 1996).....	49
Figure 2.10 KPMG Knowledge Management Process (Alavi, 1997).....	50
Figure 2.11: Examples of strategic, tactical, and operational KM-related considerations, plans, initiatives, and activities from Faber, N., Peters, K., Maruster, L., van Haren, Rob & Jorna, R. (2010) ‘Sense Making of (Social) Sustainability’. International Studies of Management & Organization, Fall, 40(3), pp. 8-22.....	59
Figure 2.12. A Social Ontology Framework for the Telecommunications Industry in the Saudi Arabia and the Gulf States.....	66
Figure 3.1 Business Organisation Knowledge Management Integrated Social Ontology Framework (BOKMISO)	68
Figure 3.2: STEPS Model and LO Maturity Model	82
Figure 3.3: KM/OL Model (Pun and Nathai-Balkissoon, 2011).....	83
Figure 4.1: INDUCTIVE APPROACH (Jones, 2004).....	101
Figure 4.2: DEDUCTIVE APPROACH (Jones, 2004)	101
Figure 4.3 Overview of three Research Design (Churchill, 1999, p. 132; Churhill & Iacobucci, 2005, p. 76).....	106
Figure 4.4: Trilogy based on Mixed Method (Axinn and Pearce, 2006)	111
Figure 4.5: Research Methodology Process	112
Figure 4.6: Sampling Technique (Cochran, 2007).....	116
Figure 4.7 Knowledge Management in the Company: Strategies and Sources	124
Figure 4.8: Knowledge Management and Organisational Culture.....	121
Figure 4.9: Knowledge Management and Organisational Structure.....	126

Figure 4.10: Knowledge Management and Organisational Performance.....	127
Figure 5.1: Company Respondents.....	138
Figure 5.2: Status of KM in the Company.....	139
Figure 5.3 Recognition of KM in the Company.....	140
Figure 5.4 KM Issues in the Company.....	141
Figure 5.5 Meanings of KM in the Company.....	142
Figure 6.1: Employees Formal & Informal Contact Ways	227
Figure 6.2 Employee Collaboration & Cooperation	228
Figure 6.3 Integration	229
Figure 6.4 Horizontal Integration	230
Figure 6.5 Employee Opinion.....	231
Figure 6.6 Employee Liberty.....	232
Figure 6.7 Control & Supervision.....	233
Figure 6.8: Prevailing Beliefs	234
Figure 6.9: Employee Encouragement	235
Figure 6.10 Referring Employees	236
Figure 6.11: Consulting Seniors	237
Figure 6.12: Culture & KM	238
Figure 6.13: Employee Trust	239
Figure 6.14: Explicit Work Rules	240
Figure 6.15: Employee Focus	241
Figure 6.16: Employee Helpfulness.....	242
Figure 6.17: Employee Sharing	243
Figure 6.18: Employee Beliefs	244
Figure 6.19: Employee Faith	245
Figure 6.20: Employee Access	246
Figure 6.21: Employee Decisions	247
Figure 6.22: Employee Decision Making.....	248
Figure 6.23: Employees & Collaboration.....	249
Figure 6.24: Employee Satisfaction	250
Figure 6.25: Tacit Knowledge Protection	251
Figure 6.26: Explicit Knowledge Management.....	252
Figure 6.27: Knowledge Documentation	253

Figure 6.28: Knowledge Codification.....	254
Figure 6.29: Knowledge Documental Codification	255
Figure 6.30: Knowledge Creation.....	256
Figure 6.31: Knowledge Acquisition	257
Figure 6.32: Competitor Knowledge Acquisition.....	258
Figure 6.33: Best Practices	259
Figure 6.34: Tacit Knowledge Valuation	260
Figure 6.35: Knowledge Source Integration.....	261
Figure 6.36: Company Documentation	262
Figure 6.37: Knowledge Accessibility	263
Figure 6.38: Knowledge Sharing Sources	264
Figure 6.39: Meetings as Knowledge Sources	265
Figure 6.40: Informal Knowledge Sources	266
Figure 6.41: Knowledge Communication	267
Figure 6.42: Collaboration Through IT.....	268
Figure 6.43: Communication Through IT	269
Figure 6.44: Information Search	270
Figure 6.45: Information Storage.....	271
Figure 6.46: Simulations	272
Figure 6.47: Mentoring	273
Figure 6.48: Costs	274
Figure 6.49: Cost Reduction.....	275
Figure 6.50: KM and Quality Management	275
Figure 6.51: Quality	276
Figure 6.52: Delivery	274
Figure 6.53: Improving Delivery	277
Figure 6.54: Improving Competitive Advantage.....	278
Figure 6.55: Customer Focus.....	279
Figure 6.56: Innovations.....	280
Figure 6.57: Innovation (Plessis, 2007)	280
Figure 6.58: Employee Development	281
Figure 6.59: Revenue Growth.....	282
Figure 6.60: Decision Making	280

Figure 6.61: Intellectual Property 284

Figure 6.62: Response to Business Issue..... 285

List of Tables

Table 2.1 Dimensions of the Duality of Structure (Giddens, 1984, p. 25).....	42
Table 2.2 Comparative Summary of the Descriptive Framework.....	51
Table 2.3 Comparative Summary of the Descriptive Framework.....	51
Table 2.4 Summary Knowledge manipulation activities identified in the frameworks.....	52
Table 3.1 The Social Ontology.....	76
Table 3.2 Innovation Management Models and Organising Frameworks (Adams et al., 2006, p. 25).....	77
Table 3.3 Key KM Activities and Corresponding IT Support for KM (Adapted from Wang et al., 2010, p. 2422)	86
Table 3.4: Research Hypotheses Designed to Study Telecommunication Industry of Saudi Arabia and the Gulf States.....	90
Table 4.1: Difference Between inductive and deductive approaches (Jones, 2004)	102
Table 4.2 The Differences in Emphasis in Qualitative and Quantitative Methods (Ghauri & Grønhaug, 2005)	108
Table 4.3 Type of Interviews and the Main Research Categories	131
Table5.1: Demographics Analysis	137
Table 5.2 Summary	143
Table 5.3 Knowledge Storage.....	144
Table 5.4 Codification of Knowledge in the Company	145
Table 5.5 Codification through Documents and Manuals.....	146
Table 5.6 Documentation in the Company	147
Table 5.7 Knowledge Accessibility	148
Table5.8 IT as the Source of Knowledge Sharing	149
Table5.9: IT Support to Facilitate Collaborative Work	150
Table5.10Communication through IT System	151
Table5.11 Search for Information through IT	152
Table5.12 Storing of Information	153
Table 5.13 Use of IT for Simulations.....	154
Table5.14 Face-to-face Meetings for KM.....	155
Table5.15 Informal Discussion in Knowledge Sharing	156
Table 5.16 Mentoring in KM.....	157
Table5.17 Creating New Knowledge from Existing Knowledge	158
Table5.18 Knowledge Acquisition and Sharing	159

Table 5.19: Knowledge Acquisition from Competitors	160
Table 5.20: Practices to Upgrade Best Practices	161
Table 5.21: Mechanisms to Value Tacit Knowledge	162
Table 5.22: Deliberate Endeavours to Communicate Knowledge	163
Table 5.23: Integrating Different Sources of Knowledge	164
Table 5.24: Sharing of Best Practices and Knowledge	165
Table 5.25: Open Culture to Facilitate Knowledge Management	166
Table 5.26: Sharing of KM is the Job of Every Individual	167
Table 5.27: Prevailing Belief about KM	168
Table 5.28: Encouragement of Employees in giving opinions	169
Table 5.29: Employees are not Force to Refer Others	170
Table 5.30: Consulting Seniors to Make Decision	171
Table 5.31: Free to Make Decision without Approval	172
Table 5.32: Contact between employees	173
Table 5.33: Collaboration and Cooperation among Employees	174
Table 5.34: Top Management is Helpful	175
Table 5.35: Employee with Top Managers can easily Access	176
Table 5.36: Collaboration with team and departments	177
Table 5.37: Employee Satisfaction through Cooperation and Collaboration	178
Table 5.38: Trust of Employees on Each Other	179
Table 5.39: Faith of Employee in Each Other	180
Table 5.40: Explicit work Rules	181
Table 5.41 Getting Work Done Rather than Following Rules	182
Table 5.42 Strict Control and Supervision	183
Table 5.43 Employees are Free to Make own Decision	184
Table 5.44 Vertical Integration and Hierarchies	185
Table 5.45 Horizontal Integration	186
Table 5.46 Autonomy to do Work	187
Table 5.47 Value and Encouragement to Employee Opinion	188
Table 5.48 Liberty to employee for Finding Solution	189
Table 5.49 Improving Competitive Advantage	190
Table 5.50 Improving Customer Focus	191
Table 5.51 Innovation	192

Table 5.52 Employee Development	193
Table 5.53 Cost Reduction	194
Table 5.54 Revenue Growth	195
Table 5.55 Decision-Making	196
Table 5.56 Intellectual Property Right Management	197
Table 5.57 Faster Response to Business Issue	198
Table 5.58 Improving Quality	199
Table 5.59 Improving Delivery	200
Table 6.1 Hypotheses	222
Table 6.2 Company Participants	223
Table 6.3- KM Status	223
Table 6.4- KM Recognition	224
Table 6.5- KM Issues	225
Table 6.6- KM Understanding	226

CHAPTER ONE: INTRODUCTION

1.1. Introduction

Recently the knowledge management phenomenon has gained considerable importance in the business industry due to the imperative role that it plays in growth and development of information flows within organizations so as to establish them as databases. Total quality management and other business models like business process reengineering are examples of the advancement which has been witnessed in field of knowledge management (Alazami and Zairi, 2003). Considering the need of today, the researchers have also started showing keen interest in exploring the phenomenon. Considering the telecommunication sector, the traditional knowledge management system has showed poor performance as it has led to loss of information due to conventional system of managing information flows; which is not suitable considering the telecommunication industry (Alavi and Leidner, 1997).

Therefore, this research particularly highlights the manner in which information sharing is influenced by various factors in organizations including organizational structure and culture as well as the different facilitators and barriers to knowledge management. The concept behind this study is that whether individuals do not possess complementary skills with each other in the team, however they are attached to the norms and culture of organizations in one way or the other.

This research will particularly address the factors like political, social and technological variables which may impact the knowledge management within organizations in the telecommunication industry.

1.2. Research Motivation

Motivation to search inexplicable need to do this research, and develop a framework for knowledge management in the context of Saudi Arabia well by the following factors, which have been summarized and Eying the main theme of the study:

There is a need for Organisations to continually reflect, improve and understand different knowledge management concepts by consulting the empirical and analytical research which has already been conducted in context of knowledge management, This is so that organisations can increase the awareness of important aspects of knowledge management process and gauge how the process could be improved,

- To instil motivation in the policy makers and management personnel of organizations in the telecommunication sector to apply the principles related to knowledge management and make the process more effective.
- To provide access to the information related to linkage between organizational culture and structure with knowledge management (Aouad et al., 1999) and
- Specifically understand the social aspects of an organisation to improve the knowledge management processes further.

The telecommunication sector has been focused in this study for the research on knowledge management systems as this is one of the most prominent industries which include a lot of information flow from one end to the other, be it in the form of communication between people or traveling of data information as well as the organizational knowledge. Therefore study of knowledge management framework and social ontology in telecom sector of Saudi Arabia conveys greater meaning for the topic of research.

1.3. Research Outline

1.3.1. Research Aims

The aim of this research is to develop a social ontological framework explaining the social relationships informing organisational knowledge management in the telecommunication industry in Saudi Arabia. Underpinning this research is the assumption that organisations are linked by collective identities explainable through social ontology. Although individual aims might not be entirely at pace with organisational strategy and goals, employees are influenced by collective social norms and identities. This has an impact on the willingness and effectiveness of knowledge sharing and management in an organisation. The research aims to determine how the incorporation of formal social issues into the organisational structure can influence KM and what supporting and hindering factors towards successful KM exist, in companies as a whole and in Saudi telecommunication companies in particular.

1.3.2. Research Objectives

Several research objectives were defined by the researcher so as to conduct the research with maximum precision and effectiveness while maintaining focus on the overarching aim of research. The research objectives for the current study are below:

1. To identify the current state of knowledge management applications in the telecommunication industry, and ways in which the industry can benefit from social ontology in its knowledge management system.
2. To undertake an empirical study including both qualitative and quantitative approaches to discover the extent to which knowledge management is implemented in the telecommunication sector in Saudi Arabia.
3. To develop a social ontological framework supporting the application of knowledge management in the telecommunication sector in the Kingdom of Saudi Arabia.

1.3.3. Research Questions

Based on these objectives, the following specific and measurable research questions have been developed.

1. How do the issues of individual and collective identities within organisations affect KM in organisations?
2. How do social issues within organisations impact on KM in Saudi telecommunication organisations?
3. How is KM reflected in the organisational context, structure and culture of Saudi telecommunication organisations?
4. What are the specific social, and business organisational issues preventing the effective application of KM system in these areas?

1.3.4. Scope

Knowledge management (KM) is considered to be important for all levels of management. Building strong KM strategies and systems help the organisation to develop the knowledge of an organisation and supports innovation. A variety of definition for KM exists, however for the sake of this research “knowledge has been described as information combined with experience, context, interpretation, and reflection” and KM is viewed “as the process by which organizations leverage and extract value from their intellectual or knowledge assets” (Kulkarni et al., 2006, p.310). This research will apply social ontology principles to knowledge management to explain the importance of social relations to storing, sharing and acquiring knowledge.

Ontologies in this research are regarded as systems of categories, meanings and identities within which individuals exist and act (King et al., 2002). Social ontology, therefore, is defined as the process applied to understand and categorise social interaction between individuals. Another important aspect underpinning this research is the assumption that employees are guided both by their individual and by organisational goals and identities. Any attempt to understand and manage organisational knowledge, has to take this into account. Therefore, developing a social ontology governing KM is useful. This understanding forms a basis for building strategic information systems that takes into consideration the social issues within organisations. Although, the applicability of social ontology for KM is well researched, this study is one of the first researches into the social ontology of KM specific for Saudi Arabia and Gulf Area. Moreover, the link between social ontology and KM is less well researched as both subject by themselves.

The findings of this research will contribute to extending theoretical and academic knowledge within Saudi Arabian and Gulf based telecommunication companies. This is the case because to date very little research has been carried out on social ontology and KM. Another way to understand ontology is to develop a formal model which is derived from a process of negotiation which reflects on the reality being investigated (Weber, 2008, p. 1). Social ontology provides insights into the social aspects of this process. Yet, social relations in Saudi Arabia are influenced by other cultural norms and variables; in particular the importance of taking into religious issues in governing much of Saudi business practices. Consequently, although private sector consultancy firms could use existing research on social ontology and KM, the researcher believes that in light of significant economic reforms in the Gulf region and Saudi Arabia, a study into the social ontology of KM in Saudi Arabia will provide valuable academic insights for the field of information systems and KM as a whole. Moreover, an on-going review of the literature suggests that there are vast amounts of literature on ontology and knowledge management which can form a strong theoretical foundation to this research work. There is however, less literature on the usefulness of social ontologies for KM, hence this research work will add value to the academic community in the development of the understanding of how social ontologies inform KM. This research takes this further by making the assumption that regardless of organizational structure, understanding the social categories of organization is important for successful KM. Therefore, apart from creating a social ontology relevant for telecommunication companies in

Saudi Arabia, it also aims to develop theoretical and practical knowledge about the link between self-interest, altruistic concerns and collective identities,

1.4. Structure of the Thesis

The report is organized into nine different chapters where each chapter sheds light on a specific perspective of the research.

The chapter one contains introduction to the research topic and its scope as well as aims and objectives which the researcher has attempted to meet. The rationale for research is presented in the chapter as well as the problems included in study of knowledge management are highlighted.

The chapter two contains literature review which highlights the theories related to knowledge management and its different frameworks. Also the relationship of different organizational and sociological factors including organizational structure and culture are studied in relation to knowledge management to see what facilitates or hinders the flow of information in organizations.

The third chapter describes the development of the Business Organisation Knowledge Management Integrated Social Ontology framework BOKMISO_f and presents the framework in detail. This chapter shows how this BOKMISO_f was developed from an integrated and iterative approach between theory and case study. This link between the theory and case study led to a list of hypotheses which would be tested with case studies. The various components of the BOKMISO_f were developed through understanding and synthesis of the various existing Knowledge Management frameworks, and models related to business organisation context, culture and structure. After analysing the benefits and limitations of these existing knowledge management frameworks, various best aspects of these existing frameworks were incorporated within the BOKMISO_f. For this particular research, social aspects of business organisations were captured and hence a social ontology aspect was integrated into the BOKMISO_f. A complete Social Ontology Framework was presented showing the Social Concepts and a lexicon of definitions of these concepts. Action Research is carried out to evaluate and reflect on this theoretically developed framework. This theoretically developed BOKMISO_f and the list of resulting Hypotheses will form the basis for the primary research with the target audience within the Saudi Telecommunication companies case studies to evaluate and validate the BOKMISO_f.

The fourth chapter discusses the research methodology. In this chapter the research designs, methods, philosophy, techniques, strategy, data collection tools and data validity is discussed. The research approach included Action Research to develop BOKMISO of theoretically from the synthesis of existing knowledge management, business organisational research and social ontological research, and practically by evaluating this within the Telecommunication Industry in Saudi Arab and Gulf states.

The data analysis and interpretation is carried out in the fifth chapter that follows the research methodology. This chapter includes interpretation of the responses generated through primary research which was carried out by the researcher with the research sample both through quantitative as well as qualitative means. The results are discussed in detail to show how things are happening in the Saudi Arabian and Gulf context relevant to the BOKMISO.

The sixth chapter includes discussion on the significant research findings in light of literature review which was conducted already by the researcher. Also the findings are compared in this section of research with the objectives that were set in advance, to see how much the researcher has been able to meet the aims of research.

The last chapter includes conclusion of research where a summary of the research is presented. The major focus of this section is to see how the findings related to overall aim of research and then limitations of research are presented which researcher faced while conducting research. The research recommendations for both researchers and practitioners are also presented in the end of report in light of the research findings.

CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction to Literature Review:

This chapter provides a review of research conducted in the area of knowledge management and social ontology. Existing knowledge management and social ontology frameworks and components have been identified to establish best practice and common ideas from each framework. The main key terms searched for included “knowledge management”, “ontology”, “Social Ontology”, “business organisation”, “knowledge sharing”, “business workflow”, “implicit knowledge”, “explicit knowledge”, “employer behaviour”, “organisational culture”, “collective identities”, and “knowledge management technologies and tools”. The concepts from the literature review have been synthesised to form the basis of the initial BOKMISO which is developed in Chapter 3.

2.2. Definition of Knowledge

Extensive research has been conducted identifying knowledge management as an integral part of organisational strategy (cf. King et al., 2002). Moreover, and directly relevant for this study, telecommunication companies worldwide are increasingly discovering business organization KM solutions to achieve competitive advantages (Elashaheb, 2005). Thomas and Keithley (2002) for example, draw the link between knowledge management and performance and argue, effective KM system embedded in organisational culture enables companies to make the most of their human resources. Thomas and Keithley (2002) provide a praxis based approach to KM, reporting on their experiences of implementing KM system in a company involved in petrochemicals in Saudi Arabia. Whilst this is not entirely aligned to the companies relevant for this research, the article, nonetheless, provides insights into ways in which KM practices in developed countries might be compatible with Saudi companies. Apart from enhancing performance, a number of commentators (cf Adamson, 2005; Steward & Waddell, 2008) point towards the importance of KM in ensuring quality. Total Quality Management used to be an important concept in management studies, but recently appears to have been replaced by an emphasis on KM. Both Adamson (2005) and Thompson and Walsham (2008) argue that quality approaches and measurements should be embedded in KM processes and systems. Steward and Waddell (2008) further make the case for KM as a fundamental component for the delivery of quality. However, instead of regarding KM as a development of total quality management (TQM), the authors’ argue it is a component of the resurgence of TQM. For them, KM and TQM are linked by a common cause, namely

increasing the competitive advantage of a company “through the application of processes that help organizations get closer to the customer, in a way that allows them to better understand their customers’ needs and wants” (Stewart & Waddell, 2008, p. 994). This has some important implication for management as a whole and organization benefit from lessons provided by the creation, introduction and implementation of quality systems. In line with many approaches to KMS, quality systems it can be noted that the formalisation of Quality measures helps individuals within an organization understand what is required to meet pre-determined quality standards (Steward & Waddell, 2008, p. 995). Therefore, quality system codify tacit knowledge on what exactly constitutes quality and therefore can inform ways in which a company handles information, data and knowledge and create a collective understanding about the organisational knowledge (Steward & Waddell, 2008).

There appears to be wide acknowledgement of the fact that successfully managing and using knowledge is important for a company’s competitive advantage. This is particularly true for companies operating within a global knowledge economy and increasingly applies to both developed and developing countries. Yet, the exact nature of and factors to effective KM is difficult to define and first necessitates a close examination of the concept of knowledge. Bell (1973 in Thompson and Walsham, 2008, p. 725) defines knowledge as “a set of organized statements of facts or ideas, presenting a reasoned judgment or an experimental result, which is transmitted to others through some communication medium in some systematic form”. This definition has influenced much of contemporary thinking on knowledge management. One of the most important concepts of theoretical approaches to KM is Nonaka’s (1991) ‘knowledge spiral’ exploring the dynamics of the interrelationship between tacit and explicit knowledge (see figure 2.1).

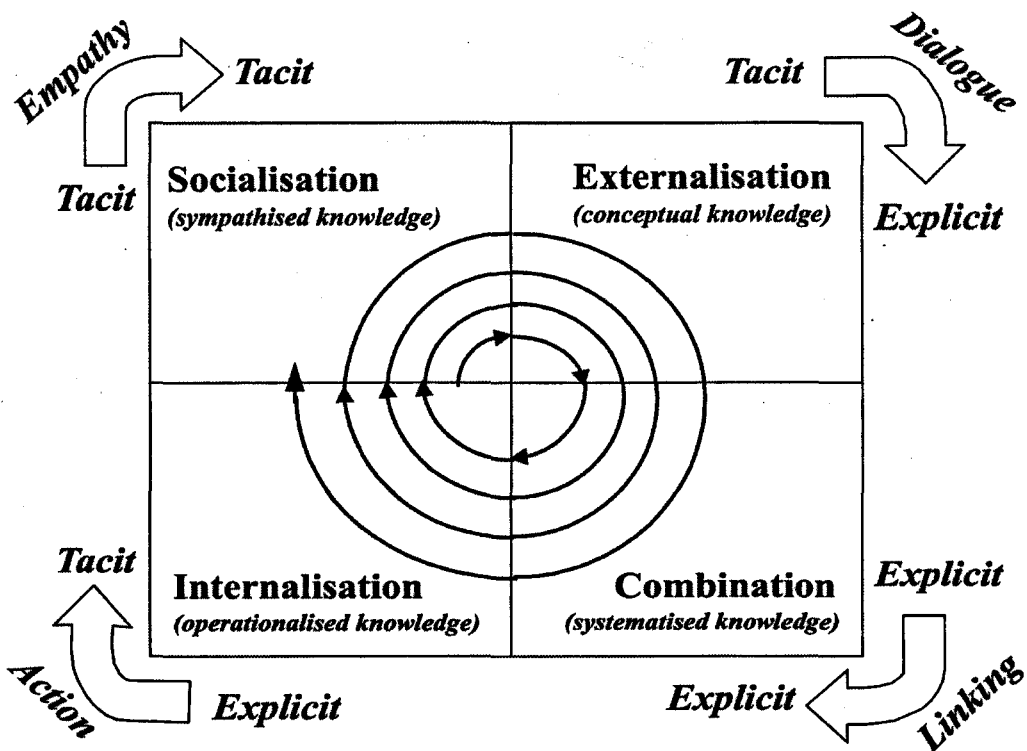


Figure 2.1 Nonaka (1991) Knowledge Spiral exploring the relationship between tacit and explicit knowledge.

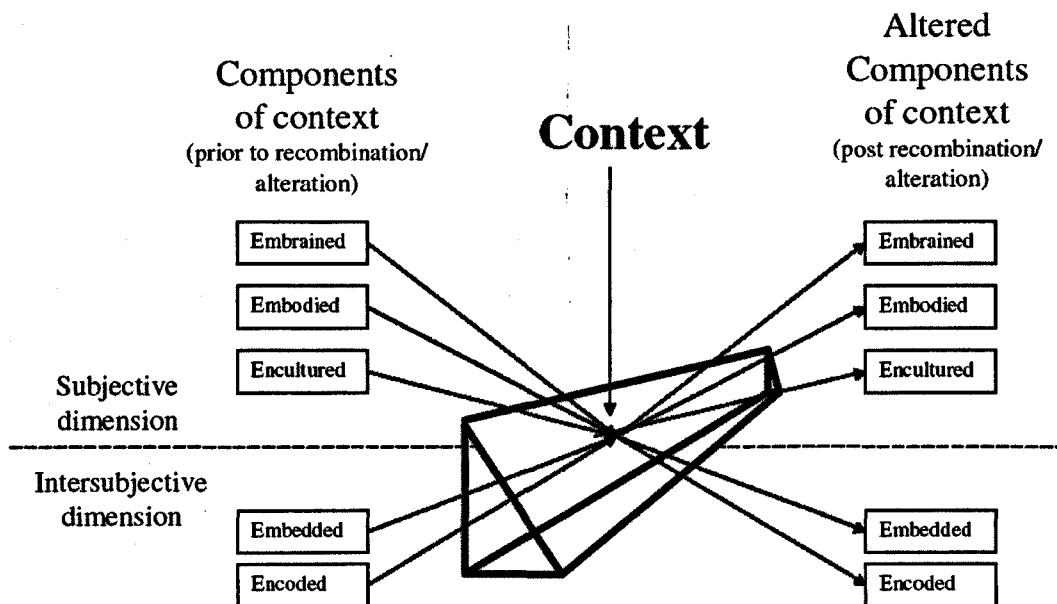


Figure 2.2 Relationship between 'historical', contextual components and context (Thompson & Walsham, 2008, p. 742).

The difference between different types of knowledge will be discussed later in this thesis, however, it is generally accepted that companies have to ensure the sharing and storing of both tacit and explicit knowledge. Nonaka (1991) identifies four different processes to explain the relationship between these knowledge types (see Picture 1). However, socialization, externalization, combination and internalization, might not explain sufficiently the ways in which individual and collective identities work together to form knowledge and ways in which companies can make use of this. Nevertheless, Nonaka (1991) 'knowledge spiral' has influenced much of recent thinking on KM. Thompson and Walsham (2008, p. 726) for example argue that Nonaka's view of "all such knowledge as objects able to pass between these different states, has contributed to a sense that the focus of knowledge management systems (KMS) should be to 'externalize' and 'combine' tacit forms of knowledge". They develop Nonaka (1991) knowledge spiral, by embedding tacit knowledge in its context and therefore enabling companies to externalise it (see figure 2.2).

This is reflected in Cohender et al (1999, p. 239) assumption that KM is about the 'codification of experience, know-how and localized tacit knowledge" or Crossan et al. (1999, p.523) assertion that KM processes are 'intuiting, interpreting, integrating, and institutionalizing" tacit knowledge.

Whilst these approaches to KM are in line with organisations need to be accountable to shareholders, they are in danger of trying to press intangible elements of KM into measurable categories. This research is concerned with the social and to an extent intangible aspect of KM and to an extent assumes that it is in understanding the interplay of individual and collective knowledge and identities that allows companies to make the most use of both tacit and explicit knowledge. In some ways, this is confirmed by Thompson and Walsham (2008, p. 726) who argue that different types of knowledge form contradictions that cannot be mitigated by technology alone, because they centre around "the problem that the meaning of any objective 'knowledge' will always remain the subjective product of the person in whose mind this is constituted, always relationally defined, and therefore does not transfer easily to others in a form which may be operationalised to the benefit of the organization". This closely reflects Polanyi's (1969, p. 195) argument that "the idea of a strictly explicit knowledge is indeed self-contradictory, deprived of their tacit coefficients (personal to the individual), all spoken words, all formulae, all maps and graphs, are strictly meaningless".

The key solutions companies are looking for include KM systems for marketing such as consumer retention, campaign management, customer- relationship management and business

organization (King et al., 2002). In competitive markets, such as the telecommunication sector, customers have become the central focus through which companies aim to achieve competitive advantage. Customer requirements not only determine services but also shape organisational structure and culture. Significantly, Kulkani et al (2006) observe that companies able to gain a competitive advantage pay considerable attention to knowledge management. As a rule, organisations are aware of the highly valuable knowledge relating to their products, processes, management and technology. Yet, King et al (2002) argues that in some cases organisation's struggle to share and/or develop these for the maximum advantage throughout an organisation. As a consequence it is not surprising that companies are becoming increasingly interested in efficient KM systems (King et al., 2002). Nonetheless, McCall et al. (2008) caution that this increasing focus on KM systems can lead to employees becoming dependent on systems, resulting in a lack of knowledge acquisition and expertise development. Drucker (1987) states, major changes in society have been brought about by knowledge workers and changes in the way people use information in their work. Moreover, Drucker (1987) stresses that organisations need to become knowledge specialist to enable them to survive in the new knowledge and information intensive competitive modern business environment.

To succeed in a competitive environment, a company requires knowledge of consumers and their preferences, competitors, products, distribution channel, service providers, law and regulations, as well as general management practices (Bennett & Gabriel, 1999). Yet, despite the importance of knowledge for companies' competitive advantage, there is a lack of accurate and commonly accepted definition of organisation knowledge (Turner & Jackson-Cox, 2002). These differing definitions suggest that a confusion of the terms knowledge, information and data exists. Data represents a group of subjective facts in form of statistics and numbers concerning the different organisational and market activities. The analysed data is transformed into information supporting the organisation's decision making. Knowledge is a more mature stage of information depending on further deep analysis of information which can be utilised for decision making (Taylor, 2004).

It is important to review all these definitions to understand the different aspects which researchers have covered to explain the concept of knowledge and knowledge management. The ideal explanation that is adopted in this thesis is that of Nonaka who explains knowledge and the knowledge management as integration of socialization, externalization, combination and internalization and the process of knowledge creation which explains sufficiently the

ways in which individual and collective identities work together to form knowledge and ways in which companies can make use of this.

2.3. Types of Organisational Knowledge

The difference between data, information and knowledge has already been discussed. Nonetheless, different type of knowledge can also be determined. The types of organisational knowledge discussed here are explicit, elicited and intrinsic knowledge. In regard to organisations, knowledge can be considered as “a set of organised statements of facts or ideas, presenting a reasoned judgement or an experimental result, which is transmitted to others through some communication medium in some systematic form” (Bell, 1973, p. 175). Most discussions of knowledge and KM distinguish between two different types of knowledge: extrinsic/explicit and elicited/tacit.

2.3.1. Explicit Knowledge

McGill et al (2008) identify three components of explicit or extrinsic knowledge. Extrinsic knowledge refers to codifiable knowledge found in organisations in the form of manuals, enterprise repositories, databases and computer systems, definitions, rules and examples. According to the authors, in order to use explicit knowledge effectively, KM system should allow users easy access to and search facility for explicit knowledge stored in the system. This in turn, impacts positively on company performance. Nonaka and Takeuchi (1995) describe explicit knowledge as a meaningful set of knowledge translated clear language and diagrams. According to Salisbury and Pass (2001) explicit knowledge is passed on to another member of staff, who needs to translate it into intrinsic knowledge to use it. Salisbury and Pass (2001) develop Nonaka and Takeuchi (1995) model of a knowledge spiral in organisations, by developing a Collaborative Cognition Model (see figure 2.3).

might not consider or be reluctant to share their tacit knowledge. Yet, it is the successful dissemination and application of tacit knowledge that provide companies with a competitive advantage. Moreover, Nonaka and Takeuchi (1995) point towards cultural differences apparent in the understanding of knowledge. This is particularly, relevant for businesses operating within an increasingly globalised economic environment. The authors argue that for example, Japanese companies and employees view knowledge as primarily tacit and not easily expressible. Culture, on the contrary, tends to focus on explicit knowledge and numbers, and therefore regards organisational knowledge as easily to acquire and communicate. This is relevant for the current study. Saudi Arabia is currently undergoing considerable economic and educational reforms, however is still embedded in its own cultural and religious context. Consequently, the importance assigned to explicit or tacit knowledge might differ between Saudi and European/North American companies. In order to successfully compete within the global knowledge economy, Saudi companies have to be able to cooperate and work with European/North American companies. However, their culturally specific understanding of knowledge is relevant to determine the most effective KM processes for them. McDermott (1999 in Thompson and Walsham, 2008) attempt to provide a case example for the emergent nature of 'knowledge' and calls it the 'residue of thinking. McDermott (1999) argues that KMS should be informed by emergent knowledge. According to Thompson and Walsham (2008) approaches to KM attempting "to sideline, or ignore Polanyi's critical (if inconvenient) insight, risk, at best, a misguided capital investment and at worst, disastrous consequences for intra-organizational interaction, since the often replace established, localized communication structures, cultural norms and understandings – which, as we shall argue, can be conceptualized as components of context – with, for example, an indiscriminately applied database-driven intranet" and Walsham (2008, p. 726). This appears to confirm the relevance of social ontology for effective KM.

2.4. Knowledge Management (KM)

The term knowledge management has been defined by many academic researchers and various practitioners. They have come up with varied perspectives about the concept of knowledge depending on their interests and the relevant fields. According to Wig (1993), knowledge management is the systematic and deliberate building up of knowledge and its application to maximize the returns from the knowledge related assets of the enterprise and to increase the knowledge related effectiveness of the companies as well. Petrash (1996) defined the concept of knowledge management as the process via which the enterprise ensures

effective decision making by providing the right people with the right knowledge at the right time. Knowledge management, according to Brooking (1997), is the process by which the enterprise manages the human centered assets with the use of intelligent tactics and effective strategies. Alavi et al (1997) describes knowledge as the belief of a person that assists him or her to take the most appropriate decision.

Furthermore, according to Hibbard (1997), KM relates to the activity whereby the enterprise captures its collective expertise from the papers, databases or even the from the people's heads to ensure that it gets distributed to where it can make the most effective contribution.

According to Beckman (1997), the knowledge management relates to the access of the enterprise to experience, knowledge and know-how that could be used later for the creation of new innovative and highly superior products which satisfy customer demands and expectations. Qunitas et al (1997) defined this concept as the management of the knowledge that an enterprise possesses critically and intelligently to ensure that it satisfies both the current needs as well as the future requirements and opportunities. Van der Spek (1997) researched KM as the management and the careful and intelligent handling of the knowledge within the organization in order to meet its aims and objectives. Malhotra (1998) has explained this concept as the synergistic combination of the data and the innovative capability of the humans along with the information processing capacity of the enterprise's information technology. Turner (1999) has also defined KM as the location, organization, dissemination and the usage of the organization's knowledge and professional expertise to carry out its organizational activities and meet its aims. Chong et al (2000) suggested that a possible definition of KM could be that it is the process by which the enterprise articulates its knowledge and human related skills with the use and support of information technology. Another popular definition of KM as put forward by Meso and Smith (2000) is that it is the sustainability of the competitive position of the entity via organizational learning. Holm (2001) suggests that KM is the provision of the right information to the people at the right time in order to help them achieve the organization's aims and goals. Bounfour (2003) defined this concept as the combination of the procedures, technical tools and managerial skills that assists in the sharing and the creation of the knowledge within the entity.

However, though the set of definitions provided above have all remained in use over time, the definition by Horwitch et al (2002) is the most commonly used amongst all. According to this definition, the knowledge management is the creation, capture, transfer and the access of the

right information to the right people in order to help them make the right decisions for the achievement of the aims, goals and long term objectives of the organization.

2.5. Functions of Knowledge management

The particular functions and the uses of knowledge management can be described in various ways. Wiig (1997) suggests four possible functions of the knowledge management that clearly outline the way in which the knowledge originates within the enterprise and how it becomes used within it later.

The first step in the knowledge transition from source to its use within the enterprise is the creation of the knowledge from innovation and organizational learning. It also involves the assembling of knowledge from various internal as well as the external resources. The next step includes the compilation of the knowledge by carefully weeding out the unneeded and outdated knowledge. The third step relates to the distribution and the pooling of knowledge from and to numerous internal as well as the external sources in order to ensure that it gets embedded in to the systems and the structure of the organization. The last step includes the application and the value realization of the knowledge within the entity in order to develop new and more innovative and customer specific products and services.

2.6. The Need for Knowledge Management

The result of effective KM is the development of new technology to improve production and increase quality. The innovation of technology improves cost effectiveness and increases profitability. Small and Sage (2005) in a review of existing literature on knowledge management, identify a number of existing KM models and framework. Models can be divided into experimental, logical, mathematical/computational and theoretical. One of the most influential researches on KM is Holsapple and Joshi's (2003) KM ontology, based on a study of international practitioners and researchers. The KM ontology introduces the concept of Knowledge Management Episodes (KMEs) consisting of processes occurring from the recognition of a knowledge need to the time where this need is satisfied (see Picture 2.4).

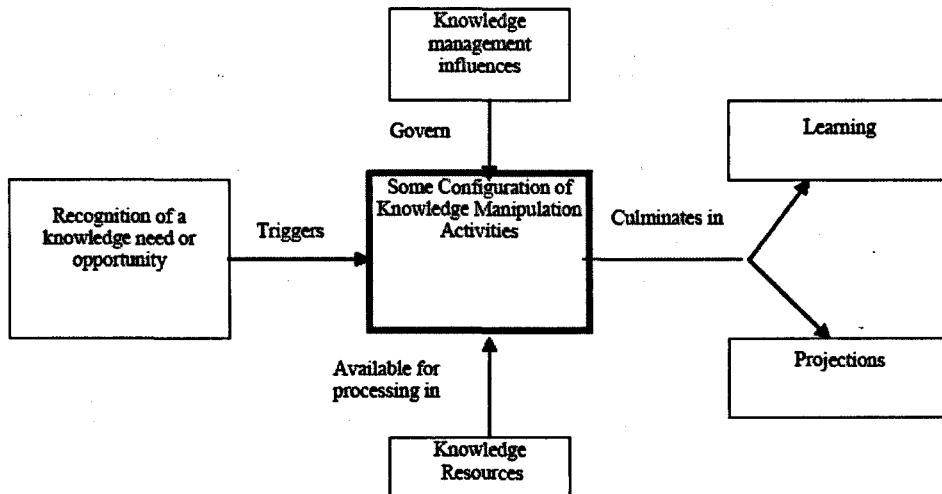


Figure 2.4 Architecture of a Knowledge Management Episode (Holsapple & Joshi, 2003, p. 398).

Their ontology incorporates the different components and activities necessary for successful KM. These consist of knowledge resources such as culture, strategy and infrastructure, knowledge manipulation activities including acquiring, selecting and KM influences such as managerial, resources and environmental. According to Holsapple and Joshi (2003) the interplay of all these activities is necessary for successful KM. This is confirmed by Thompson and Walsham (2004) who conclude that KM processes and programs, paying insufficient attention to the context, have significant limitations. In particularly relevant for this research, Parikh (2001) argues that KM is a complex process and cannot be regarded as a stand-alone activity, but has to be embedded in all business process and become part of corporate culture. Thomas and Keithley (2002) argue that effective KM improves performance. Based on the example of Fluor Corporation, the authors describe the process of implementing KM processes to increase competitive advantage. According to them “Fluor’s total implementation of KM has transformed the company through improving our ability to attract, train, develop and retain new employees, bringing them up to high levels of technical and business competencies much earlier in their careers”(Thomas & Keithley, 2002, p. 3). Holsapple and Singh (2000) have reported the importance for companies involved in electronic commerce more than a decade ago. They argue that electronic commerce is the cutting edge for business today and cuts across industries and business disciplines. Holsapple & Singh, (2000, p. 151) suggest that electronic commerce “will eventually pervade practically every aspect of management”. Effective primary and secondary KM activities add

value to a company. Allard and Holsapple (2002) follow up this research and also suggest the KM is the key for e-business competitiveness. They argue that "Knowledge is a global resource that involves interplay of human intellectual capital and technology. As such, it has come to play a key role in organizations, functioning as both product and resource" (Allard & Holsapple, 2002, p. 19). They confirm Holsapple and Singh's (2000) conclusion that KM is a prime driver of electronic commerce and potentially impacts on a company's competitive advantage.

2.7. Critical Success Factors for KM

In the dynamic business world today, the knowledge management has become a critical success factor for the businesses around the globe. In order to sustain the competitive advantage of the businesses, it has become extremely important for them to ensure that the right knowledge is available to the right people at the right times. According to Haxel (2001), to achieve corporate success, one of the most significant factors is the use of the knowledge in a well organized and effective way. The basic of knowledge management is to ensure that the entity spreads and applies the knowledge that it has in a more efficient way than its competitors in order to achieve competitive edge. Research indicates that researchers have had diverse perspectives in this area of research and have come up with their own critical success factors for the successful implementation of the knowledge management depending on their experience and the level of perceptions.

According to Wiig (1996), the main critical success factors for KM are the knowledge assets and the knowledge related processes of the entity. The knowledge assets must be exploited and used to the largest extent within the entity while it must also be ensured that the processes to create, build, organize, transfer and safeguard the knowledge are well managed within the organization for the KM to be successful. Finneran (1999) suggests that the critical success factors, according to him, are the creation of knowledge culture within the entity and the creation and the sharing of creative knowledge amongst the individuals and the systems of the organization. Manasco (1999) has outlined the critical success factors of KM as knowing the community while creating the context and overseeing content. It also includes the enhancement of the sharing and the creation of knowledge process along with supporting the infrastructure and the technology of the entity. The learning, implementation and the sharing of knowledge that the people within an entity have are regarded as the critical success factors of the KM according to Bassi (2000). Furthermore, Streele (2000) consider that the

staff of the enterprises must buy into the new model and share the available information with the support of the management and open communication lines between the various levels of the management in order to implement KM successfully. According to Haxel (2001), KM is only successfully applied and implemented when the knowledge that it relates to is structured properly and organized for further processing. Lastly, Skyrme (2002) has indentified ten key critical success factors relating to the implementation of KM. they include the support of the top management of the entity with clear and easy- to- understand links with the business strategy. It also includes being very knowledgeable about the knowledge that the entity possesses and compelling the vision via smooth and systematic knowledge processes and well structured infrastructure relating to the knowledge of the entity. It also includes the creation of innovative and knowledgeable culture within the entity with appropriate measures in place and effective technical infrastructure.

The basic purpose behind outlining the critical success factors of the KM is to ensure that a sound KM environment comes into existence within the organization which gives the organization competitive advantage over the other companies. The identification of the critical success factors ensures that the organization creates new knowledge within the entity while maintaining the current resources of the entity relating to the knowledge. These factors also help ensure that the KM benefits, as identified later in this report, are exploited to the largest possible extent. Thus, the most important factors continue to remain the culture and the structure of the entity and also the skills and the level of commitment of the top management of the entity. The KM processes that are embedded in the structure of the entity and include the creation, transfer and sharing of knowledge also remain the key critical success factors for the implementation of the knowledge management of the organization.

2.8. Benefits of Knowledge Management

Many researchers have confirmed the fact that the management of knowledge is imperative for the survival, growth and success of the organizations. Malhotra (1998) and Mansco (1999) have researched the benefits that Km may serve to the organizations. The creation and continued updating of knowledge is extremely important for the entities, according to Malhotra (1998), since the knowledge that worked for the organization may not work for it in the future due to the change in the external environment and the continuously changing demands and the needs of the businesses. In order to maintain the ongoing effectiveness and the competitiveness of the business, KM remains one of the most feasible ways. APQC

(2000) firmly believed that the reason why some of the organizations failed to prosper was their lack of concern for the management of the knowledge. There are many different views of various authors and researchers on the benefits that KM may offer to the organizations.

APQC (1996) has outlined the benefits resulting from the KM as the rise in the level of the customer satisfaction and improvement in the operational effectiveness and the cycle time of the entity along with the more appropriate use of the knowledge existing within the entity to assist in better provision of the services. Some of the benefits identified by Grey (1996) include the provision of great customer service by reducing the cycle time and minimizing the fixed assets and overheads of the entity. The benefits also include the empowerment of the workforce by producing much more innovative products of high quality. KM also benefits the firms by improving the decision making process, developing the knowledge assets of the organization, preventing the firms from loss of knowledge and providing them with the competitive advantage over the other entities (Radding, 1998).

Pervaize et al (1999) also identified some of the benefits that KM provides to the firms and they included the reduction in the loss of intellectual capital that results from labor turnover, the reduction in the costs associated with the production of new products and provision of services and the increase in the satisfaction of the employees within the entities. According to Uit Beijers (1999), KM results in the improvement of efficiency and better market position as well as the profitability prospects for the businesses. It also provides room for more effective and efficient decision making by improving the communication between the workers and the knowledge itself and assists in letting the firms focus on tier core activities by providing critical knowledge. Santosus and Surmacz (2001) have outlined the key benefits resulting from KM as improvement in the customer service and increase in the revenues of the businesses by bringing more innovative products and retains the employees by rewarding them ad providing them with most useful knowledge. KM also benefits the organizations by streamlining their key operations and reducing the costs of production by eradication the unneeded operations and reducing wastage. Skyrme (2001) remains one for the most influential researcher in this arena ad according to him, KM is itself a critical success factor for the businesses these days. The benefits that it offers to the businesses include the identification of sound solutions to the customer related issues, generation of newer and more innovative ideas for the new product development, alignment between the technical infrastructure and the business strategy, identification of new business opportunities and the timely warnings relating to the change in the market situations.

All of the above mentioned problems may not be availed by the organizations if they don't take the particular needs and requirements of the people into consideration and fail to consider the numerous factors that are important for the smooth implementation of KM within the entities.

2.9. Knowledge Management Technology and Tools

According to McDermott (1999), the concept of knowledge management requires the availability of information technology so that it may allow the capture, creation, transfer and the dissemination of knowledge within the entity. To assist the organizations in the management of knowledge, the organizations have to have strong and effective culture change process in place. According to Clarke and Rollo (2001), the success of the knowledge management initiatives within the business is strongly dependent upon the nature of the culture of the entity. An open knowledge sharing culture is vital for the success of KM.

The major purpose of having knowledge management technology is to ensure the effective transformation of tacit to explicit knowledge. This means that knowledge which exists with the individuals is aggregated by the KM software as the organizational knowledge. The basic goal of the knowledge management technology remains the creation of the links between the people within the organizations and the information technology.

Knowledge management requires the use of networks as the technology as it allows the organization to have all of its knowledge agents remain connected to each other. The networks therefore, allow the organizations to exchange the knowledge amongst the members and various employees of the entities. The KM network is very commonly divided by entities into the strategic and the operational platforms (Probst and Romhardt, 1997; Seufert et al, 1999; Back et al, 2001; von Krogh et al, 2002). Networks as part of the knowledge management technology have been used by many well established entities (Enkel and Wicki, 2002).

Along with this, the software tools have also played a vital role in the implementation of KM within the organizations. The software applications that exist to provide the KM solutions are so many in numbers that it becomes very difficult to outline what exactly is the most reliable and sound application. Therefore, Al- Ghassani et al (2002) states that the organizations around the world have applied different models for the implementation of KM systems

depending upon their cultural and structural features. The most commonly used networks have been identified as follows;

2.9.1. Intranet

Intranet is basically an internal networking system that is solely made for the fulfilment of the objectives of the organisation. According to Burdet et al (1998), the intranet is set up for the electronic communication amongst only the authorised users of the entities and also provides the storage services to the users. In case of knowledge management, the intranet is of great use since it allows valuable information and knowledge to be distributed amongst the individuals who can then share their knowledge and expertise and make them remain connected no matter where they physically are present. Furthermore, intranets also strengthen the bonds between the various branches and the subsidiaries of the firms by allowing the employees of one branch to share his or her knowledge with that of another employee in some other branch in another part of the world. Intranets are, hence, time saving and cheaper tools for the KM within the entities.

2.9.2. Data Warehouses

Data warehousing is another technology that may be and frequently is used for the implementation of KM in the enterprises. This technology involves storage of huge amounts of data together for further processing. Data warehouses are of special use for the large scale businesses where the sites are so widely dispersed geographically that collection of data at one central location is a huge advantage. Burdet et al (1998) suggests that this technique allows the storage of vast amounts of useful information and also allows the data mining of the information to become possible.

2.9.3. Groupware

This technology assists in the implementation of the KM by enabling the group work to take place more efficiently. According to Smith (2000) and Ellis et al (1991), the groupware assists in the communication of informal and ad hoc information amongst the people from various parts of the organisation ranging from the people in different offices or departments to the people in the same organisation yet in different countries or regions.

2.9.4. Communities of Practice

Communities of practice consist of individuals with similar interests or beliefs to come forward and form informal groups. The people within these groups then share their ideas and beliefs about a specific domain and help them in gaining organisational learning as well as

provide them with the solutions to their work related problems (Wegner and Snyder, 2000, Stewart, 1997). Organisations tend to benefit from the communities of practice by allowing their employees to become a part of such communities and create a knowledge environment within the organisation. The employees who take part in such networks can share their ideas and knowledge readily and update their work related knowledge to assist in meeting the organisation's goals even more efficiently. Biren (2000) suggests that some of the main examples of communities of practice within the organisations include the researchers, engineers, sales persons and the technicians.

2.9.5. Knowledge Based Systems

The knowledge based systems are commonly known as the expert systems of the organisations. It fundamentally comprises of the application of the artificial intelligence onto a particular area of activity. It involves feeding of human knowledge and expertise into the computer systems that later applies the same knowledge to the real life time scenarios. These systems allow the computer to replace the human experts and ensure cost effectiveness to the organisations (Burfett et al, 1998). The most major critic of these systems remain Gumbley (1998), according to whom, these systems can never take the position of the human experts as all real time situations vary from one another and require crucial judgments instead of the judgements passed by the technological systems.

The use of such systems in the KM is that it allows the organisations to capture and make use of the routine information by allowing everyone to have access to it via a centrally available knowledge base.

2.9.6. Intelligent Agents

Intelligent agents are also known as the software agents who perform various organisational tasks by building personalised knowledge from the use of artificial intelligence with very little interference of the people within the organisation. The software agents are of two main types comprising of the collaborative agents and the personal agents. According to Ferneley (2001), the collaborative agents have the job of collaborating with the people and the other agents for the achievement of the objectives and goals of the organisation. Such agents lead to the increase in the level of productivity of the employees since the employees have all the relevant and required knowledge at their disposal which allows them to carry out their tasks more efficiently thereby leading to the reduction in the wastage of money and time.

The personal agents work by compiling the user related information in order to meet the needs and requirements of the users more effectively. Ferneley (2001) suggested that the use of profiling technologies remained very useful for the enterprises since the longer the firms used software agents, the more accurate their model results for the users of the agents.

2.10. Soft System for the KM

While using the technology for the implementation of knowledge management, the use of soft systems is particularly important. The social or the soft systems help the culture transformation within the organization to take place that allows the knowledge sharing environment to be built in. according to Macdonald (1999), the KM implementation can never be successful unless a knowledge- sharing culture is established within the enterprises. Some of the techniques used in the cultural change process of the knowledge management are outlined below;

2.10.1. Change Management

In order to bring about any new framework into the culture and the structure of the enterprise, the use of the change management plays a significant role. Vakola (2000) believed that the proposed new systems in any organisation will never be successful due to the fierce resistance to change by the workforce and therefore, the use of a well defined change management plan is essential. The first step towards bringing about a cultural change within the organisation must begin with the formation of a strong in house change management team which has the ultimate aim of introducing the knowledge management most successfully into the organisation. According to Macdonald (1999), the team must begin with looking for ways to change their current business operation to those that are knowledge based.

According to Vakola (2000), the change management team members must act as the change agents and must identify and involve the right problem owners in the introduction of change to make it even more successful. Furthermore, another important component in the cultural change process of the knowledge management understands the true nature of change and the exact purpose behind the introduction of change. The identification of the nature of the change can be done with the use of numerous analytical techniques (Vakola,2000).

2.11. Knowledge Management Plan

According to the European community (1995), the knowledge management plan must be carefully designed and it must cover all the areas of the business and all those people that

may get under the direct influence of the change. Though, there is no specific procedure of coming up with a knowledge management plan, Macdonald (1999) has come up with a few components that are mandatory for the preparation of an effective knowledge management plan.

The components of the plan may include the strategy and principles for the KM initiative and management structure required for change to take place. The components of the change process may also include the training and education of the employees, IT support systems, opportunities for the creation and capture of knowledge, use of proper timetables and also the setting of feasible goals for the success of cultural changes along with regular auditing.

2.11.1 Employee Education and Training

One of the most effective ways of bringing in a cultural change within the organisation includes the provision of education and training to the employees of the organisation. Macdonald (1999) firmly believed that educating and training the employees can have long lasting impact onto the culture of the enterprise and can help bring about the change even faster.

Training the employees help them learn the knowledge management related skills fast and allows them to get acquainted with the working process with the new knowledge system. The provision of on- the- trainings are more effective than the off- the- job trainings as they assist in making the employees get familiar with the new IT systems and tools.

Educating the workforce enables them to understand the true nature and the exact purpose behind the introduction of the change for the implementation of the knowledge management. The main reason why the firms must continue to educate its employees is that they will only have a sense of belonging to the organisation if they are made aware of the concept of knowledge management and the benefits that it may serve to them.

2.11.2 Benchmarking

Benchmarking is an effective support measure that is applied by many organizations to bring about changes. The benchmarking process, according to Macdonald (1999), is the identification and the adoption of the best available practices by the entities all around the globe to assist the organisation in improvement of their performances. Chase (1997) believed that organisations that adopt the best proven practices from the other organisations remain better off since those practices are tested and used before and the results are well known. This

enables the organisational performance to flourish. In the context of KM, benchmarking may enable the firms to identify, collect, store and adopt the knowledge available with the other firms.

2.11.3 Implementation Strategies

It is imperative for the organisations to devise effective and well defined implementation strategy before the implementation of knowledge management within the entity. There are three basic ways via which the change can be introduced within the organisations. Vakola (2000) describes the three ways as the pilot study, big bang and the parallel running.

Pilot study is a very little version of the actual system of change and it involves the identification of the problems and the issues before the actual system is introduced into the organisation. The pilot study doesn't even result in much resistance from the employees to change. This technique of introducing change is, however, very expensive and time consuming for the organisations.

Parallel running involves the running of the new system alongside the old system until it takes over the old systems completely. This way allows the organisation to test and see the results of the new system while the old system is still in place and also allows the comparisons of the new and the old systems to take place.

Big bang, however, introduces the new systems to the workplace at once with the elimination of the old system at the same time. Though, this way is cost effective and time saving for the organisation, it results in very high resistance to change from within the organisations.

Generally, most KM theories differ in their assumptions about epistemology, ontology, methodology and human nature (Elashaheb, 2005). Structuration theory developed by Anthony Giddens (1979), for example, was the first theory aiming to explain the social aspects of knowledge management. Structuration theory removes the divisions between social sciences. The concept of Giddens' (1979, p. 69) structuration theory builds on "a duality of structure which relates to the fundamentally recursive character of social life, and expresses the mutual dependence of structure and agency". This reflects the relationship between the structures (patterns) of social relationship and the social life (see figure 2.5 next page).

<i>Structure</i>	signification	↔	domination	↔	legitimation
	↕		↕		↕
<i>Modality</i>	interpretive scheme		facility		norm
	↕		↕		↕
<i>Interaction</i>	communication	↔	power	↔	sanction

Table 2.1 Dimensions of the Duality of Structure (Giddens, 1984, p. 25).

Ontologies and in particularly social ontologies are important theoretical constructs informing the management of knowledge. In an extension of this theory, Searle (2006) argues that social ontologies are both created by individual action and attitudes, but at the same time have an epistemically objective existence and are thus part of the natural world. Whilst, being theoretical in nature, Searle's (2006) exploration of social ontology as a framework is relevant for this research, because it sets the context for the usefulness of social concepts and categories for the management of knowledge. This is in line with Fairclough (2005) who points towards the importance of understanding organisational discourses. According to Schatzki (2005, p. 465) social ontologies "examine the nature and basic structure of social life and social phenomena".

Schatzki (2005) argues that social ontologies can be divided into individual and societal entities and that in order to understand KM, both are important. In recent years KM in organisations is not restricted to individual and organisational knowledge, but also has to consider the material set up of an organisation (Schatzki, 2005). The importance of KM for electronic commerce has already been discussed. In conclusion it can be argued that the organisational structure as reflected in the material set up is also important for KM. Brey (2003) makes a similar point when evaluating the concept of social ontology for virtual environments. He argues that "just like the real world, virtual worlds have an ontology, meaning that entities encountered in them have a mode of existence that may be analysed" (Brey, 2003, p. 276). Much of KM takes place within a virtual environment. This appears to confirm the relevance of social ontology for the analysis of KM. If one understands virtual environments as real and not imaginative, than ontologies allow for significant insights into organisational knowledge management. Moreover, Martins (2009) makes a case for the importance of ontologies to understand collective identity. Collective identity, however, is an important aspect of KM. This particularly applies to the successful management of intrinsic

and tacit knowledge. Whilst, extrinsic knowledge can be easily dispersed through information systems, tacit knowledge is based on unspoken rules and agreements. Both types of knowledge is vital for organisational success and social ontologies can be used to make sense of these rules and collective identities. Martins (2009) argues that human agents follow social behaviour rules, which occasionally can be out of line with their individual goals. This is particularly true for organisations, because in many cases organisational aims and objectives are not simultaneous with employee's individual goals. In order to make the most of tacit knowledge, organisations have to understand ways in which employees personal aims and objectives interlink with organisational goals, forming collective identities.

Most of MIS use social ontology to create software used in KM. Proposed in the 18th century, social ontology is concerned with the study of 'what exists'. In recent years, ontology has been applied to studying KM. The rationale for using ontologies is the definition of domain semantics as conceptual relationships and logical theories. Elashaheb (2005) reported that IT is considered one of the major factors impacting on knowledge management. The advanced technologies provide a good base for efficient management of KM. Nevertheless, Elashaheb (2005) consider organisational culture as one of the constraints to effective KM. He reports that the culture of an organisation should be an innovative, learning and knowledge sharing one to make most effective use of KM technology.

Researchers have done extensive research work in trying to develop the knowledge management framework that may provide a complete frame for the knowledge management by defining the key attributes of the concept of KM. The knowledge management framework that currently exists has numerous deficiencies and therefore, a newer framework for the KM is required to overcome the problems built in the existing frameworks.

Prescriptive framework had been introduced by Beckman in 1997 and it consisted of eight stages of the knowledge management. The stages included the identification, capturing, selection, storage, sharing, application, creation and the selling of the knowledge within the organization. The identification stage of the prescriptive framework involved determining the core capabilities and the competencies of the organization and filling up the gap that exists between the currently needed knowledge and the new ones. The second stage of "capture" included gathering of the needed knowledge from as many sources as possible either internal or the external sources. In the "selection" stage, the organization filtered the knowledge that it had gathered at the last stage to identify the most relevant knowledge. Storage stage involved

including the filtered knowledge into the memory of the organization. The stage of sharing the knowledge included the retrieval of knowledge from the memory of the organization to ensure that it became available for use to the users. The application stage involved using the retrieved knowledge to apply it in the key business decisions and operations. At the stage of creation, the firm used other processes such as data mining and experimentation to find out new knowledge and at the last stage of selling, the organization used the organizational knowledge to come up with new products and services.

The various broad frameworks available for the implementation of knowledge management differ from each other in their focus as well as in ways in which they characterise the nature of the concept of the KM.

2.12. Framework of Knowledge Management Pillars

The framework of the knowledge management was developed by Wiig in 1993 and it was based on three pillars. The first pillar related to the appropriateness and the nature of the knowledge. The particular characteristics of the first pillar included the survey and categorisation of the knowledge along with its analysis and the codification as well the organisation of knowledge and its related activities.

The second pillar of the broad framework was concerned with the assessment and the evaluation of the value of knowledge. The third pillar had the main concern of the management, organisation and the control over the KM activities of the organisation. The main features of the last pillar included the synthesizing of all the knowledge related activities, handling and controlling the knowledge present within the organisation along with the dissemination and the automation of the knowledge and its related activities.

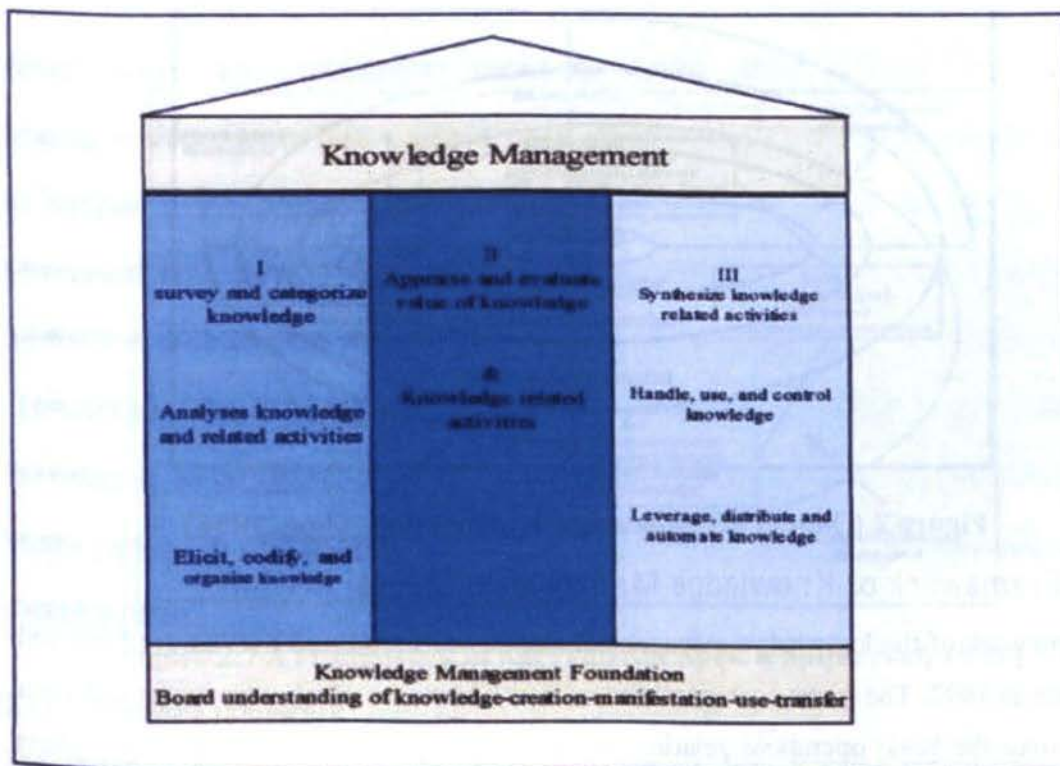


Figure 2.5 Knowledge management Pillars (Wiig, 1993)

2.13. Framework for the Knowledge Organisation

The framework of the knowledge organisation has been put forward by Choo (1996) and it mainly focuses on the explanation of the processes by which the organisations use the information available to them strategically. The three processes as outlined by Choo are the sense making, knowledge creation and the decision making process. The processes are basically linked with one another to define the attributes of the organisation that possesses useful knowledge to act intelligently.

The first process of the framework for the knowledge organisation is the sense making process whereby the organisation and the people within it try to interpret and make sense of the changing environment of the organisation. The second stage of the knowledge creation relates to the ways in which the organisation generates new knowledge while pursuing innovation in its products and services. The decision making process identifies the ways in which the organisation may use and process information that it possesses in the real time situations to resolve the organisational problems and to carry out numerous work related tasks. The following diagram provides the pictorial representation of the framework of the knowing organisation along with its three processes.

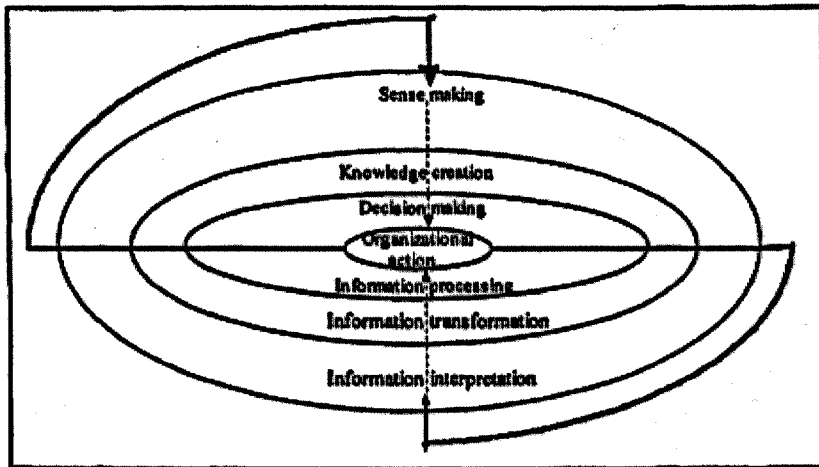


Figure 2.6 Model of Knowledge Organisation (Choo, 1996)

2.14. Framework of Knowledge Management Stages

The framework of the knowledge management stages was introduced by Van der Spek and Spijkervet in 1997. The framework consisted of four KM stages which were meant to have a control over the basic operations relating to the knowledge management. The four stages were outlined as the conceptualisation, reflection, action and the stage of retrospection. At the stage of conceptualising, the existing knowledge is researched and classified in order to gain insights into the knowledge resources. At the second stage of reflection, the knowledge that had been conceptualised is evaluated against a set of pre determined criteria and is improved via the improvement plan. The action stage incorporated the actions that are taken to improve the knowledge to develop new knowledge and to carry out the distribution and the handling of the developed knowledge. At the last stage of retrospect, comparisons are carried out between the old and the new situations after the introduction of new knowledge.

The KM stage can be seen as a problem solving cycle that coordinates the knowledge management activities within a problem solving incident. The cycle is itself influenced by numerous internal as well as the external factors. The external factors that may have an influence on the KM enterprise include social, political, technological and the economic changes occurring in the external environment. The internal environment may include the cultural, managerial, motivational and the IT related features of the knowledge management organisation/. The framework of knowledge management described above is also illustrated in the diagram below.

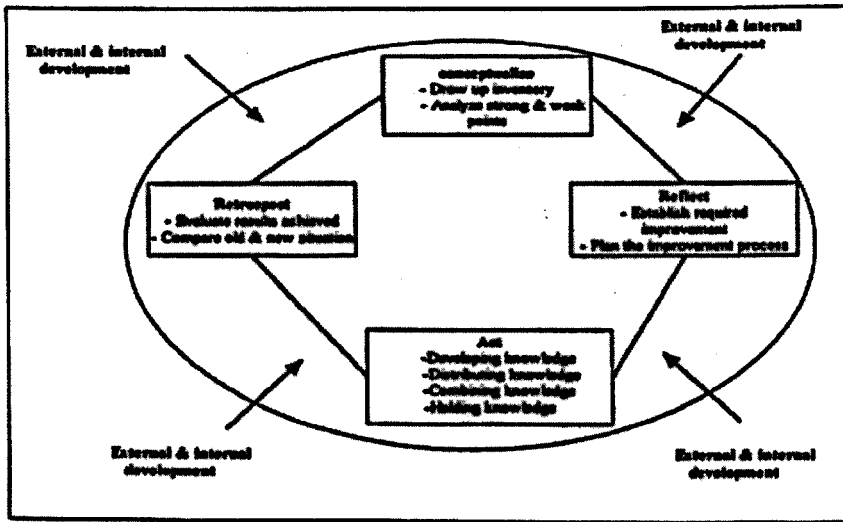


Figure 2.7 A Framework of KM (Van der Spek & Spijkervet, 1997)

2.14.1. Precise Framework

The literature relating to the knowledge management also contains various specialized descriptive frameworks in addition to the broad descriptive frameworks as outlined in the discussion above. The most relevant precise frameworks relating to the knowledge management are discussed below.

2.14.2. Framework of Knowledge Conversions

The framework of knowledge conversions is basically based on the knowledge creation perspective and it was first put forward by Nonaka in 1994. This framework consisted of four types of knowledge conversions i-e the socialisation, externalization , internalization and the combination. The first conversion interaction was named as socialisation and it was the process by which organisations created new knowledge from using the tacit knowledge as the basis. The externalization process worked to convert the tacit knowledge into the explicit knowledge while the process on internalization transformed the explicit knowledge to tacit knowledge. The fourth process of combination was concerned with the creation of new explicit knowledge from the existing explicit knowledge.

The framework of knowledge conversions, therefore, explained the entire process of knowledge creation by the use of four conversion interactions and processes and also explained how the transformation of the knowledge took place within the organisational and the individual levels of the enterprises. Presented below is a diagrammatic representation of

the KM framework according to the perspective of Nonaka as the knowledge process conversion.

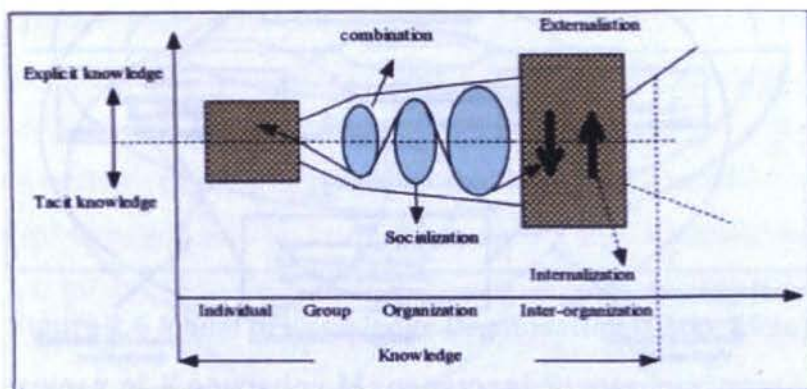


Figure 2.8 Spinal of Organisational Creation (Nonaka, 1994)

2.14.3. Model of Intellectual Capital

The intellectual capital of any business, according to Petrash (1996), is of three main types. The Petrash model of intellectual capital comprises of the human capital, organisational capital and the consumer capital. The human capital is basically that knowledge which each separate individual within the organisation generates. The second organisational resource is the organisational capital that consists of the knowledge that has been embedded into the structure and the culture of the organisation. The last intellectual resource of the organisations is the consumer capital that is the perceived value obtained from the use of goods and services by the consumers resulting from the customer- supplier relationship with the entity.

Research work indicates that the three types of intellectual capital mentioned above are interlinked with each other in such a way that the relationships amongst the three result in great financial value for the organisations. The model of intellectual capital is also shown in the diagram below and the dotted lines within the diagram indicate the management of the intellectual capital of the organisations. According to Bukowitz & Petrash (1996), the creation of the maximum overlap amongst the three rings of the intellectual capital in the diagram below indicate that the maximisation of the inter links between the three types of capital increase the value creating space for the organisations.

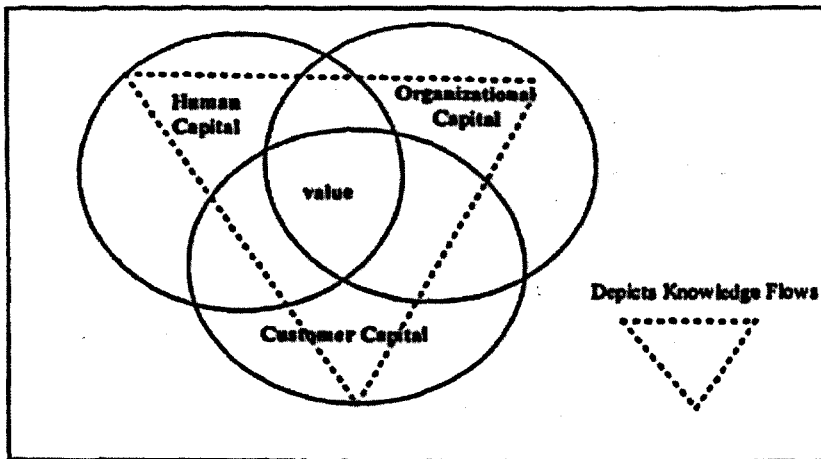


Figure 2.9 Intellectual Capital Model (Petrash, 1996)

2.15. Model of the Knowledge Management Process

This model of knowledge management process was put forward by Alavi in 1997 and according to him, the knowledge management is the creation and sharing of the intellectual assets and the knowledge possessed by the individuals of the organisations. The basic purpose behind the knowledge management is to ensure that the clients and the consumers of the firms are served in the most appropriate manner. The model of the KM process consists of six phases mainly named as the acquisition, indexation, filtration, linking, distribution and the application of the knowledge within the organisation.

The acquisition phase included the creation of knowledge and the development of the content by learning from the experiences of the client engagement projects. The knowledge creation and development is done by the collection, leverage and the evaluation of the huge amounts of knowledge existing within the organisation. The phases of indexation, filtration and the linking are collectively termed as the library management activities of the firms since they are mainly concerned with the screening, classification, integration and the connection of the content gathered from both the internal as well as the external resources. The phase of distribution involves the delivery of the filtered and the linked knowledge to the consumers in the form of web pages such as the creation of graphics, templates and the multimedia formats. The application phase is concerned with the use of the captured, collected, synthesised and the delivered knowledge to produce more innovative products and services. The six phases are also summarised in the pictorial representation shown below.

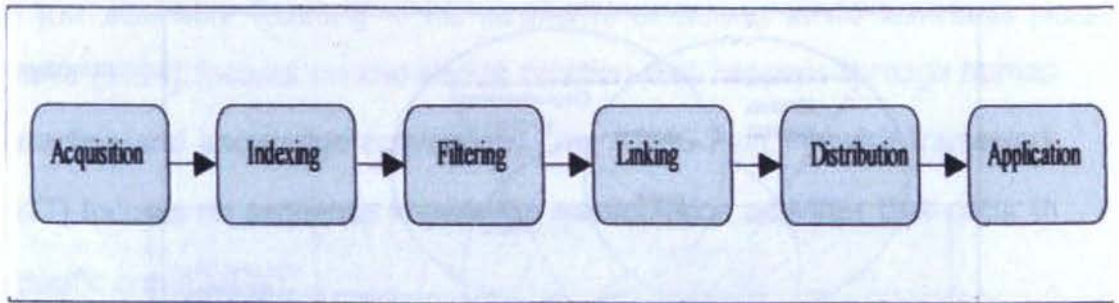


Figure 2.10 KPMG Knowledge Management Process (Alavi, 1997)

2.16. Comparative Analysis of the Descriptive Framework

The various descriptive frameworks discussed above are compared with one another on three dimensions. The two dimensions are related to the contexts while one of the dimensions, for the comparisons between the descriptive frameworks, is content- related. Those that are context related are known as the focus and framework genesis while the content related is called the knowledge manipulation activities.

2.16.1. Focus

The focus of the frameworks reveals the particular dimensions that are under great emphasis of the researcher of that specific framework. The Wiig's framework, for instance, had its main focus onto the managerial issues and influences that may have an impact on the conduct of knowledge management in any organization along with all the knowledge manipulation activities that get influenced by the framework of Wiig. Choo (1996) has also identified some of the knowledge manipulation activities in the knowing organization framework. Furthermore, the framework put forward by Van der Spek and Spijkervet (1997) emphasized on the cycle of the stages and the pattern knowledge manipulation activities within the organizations. The model by Petrash (1996) relates to the types of intellectual capital found within the organizations and their importance in the knowledge management process. The model is therefore, significant for the characterization of the knowledge related resources within the organizations. The model put forward by Nonaka (1994) also focused on the creation of knowledge within the firms occurring due to the combination of human interactions and the knowledge conversions. The last descriptive framework by Alavi (1997) focuses on the use of technology to implement the knowledge management within the organizations.

Broad Frameworks				Specials Frameworks		
Authors Dimensions	Wiig, 1993	Choo, 1996	Van der Spek Spijkervet, 1997	Perash, 1996	Nonaka, 1996	Alavi, 1997
Focus	Identifies management influences on the conduct of KM.	describes the working of "knowing" organisation	characterises & conceptualises -reflect-act-retrospect cycle for governing the conduct of KM.	Characterizes and measure Intellectual capital	Characterizes knowledge creation through interaction of tacit & explicit knowledge and among individual, group, and organisational entities	Using technology to accomplish KM at KPMG PwC Marwick

Table 2.2 Comparative Summary of the Descriptive Framework

2.16.2. Framework Genesis

Framework genesis is also another type of the comparative techniques that allows the frameworks to be compared with one another. The framework genesis is a context related technique that has its main emphasis on the development methodologies of the frameworks. Research indicates that the frameworks originate from the academic as well as the practitioner related sources. Those that result from the academic research are the ones that originate from the field researches across various organisations into the knowledge management phenomenon. Those that result from the practitioners are first hand experiences arising from the consulting capacity of the researchers.

Thus, the framework devised by Choo (1996) was a synthesis of the past research while the model put forward by Petrash (1996) resulted from the practical organisational experiences. In addition to it, the framework by Alavi (1997) seemed to have grown out of academic case study of a consulting organisation. The comparative summary of the framework genesis of the descriptive frameworks is shown in the diagram below.

Broad Frameworks				Specials Frameworks		
Authors Dimensions	Wiig,1993	Choo,1996	Van der Spek Spijkervet, 1997	Perash, 1996	Nonaka, 1996	Alavi, 1997
Genesis	Not Indicated	synthesis of past research	Not Indicated	Practical organisational experiences	Not Indicated	Case Study

Table 2.3 Comparative Summary of the Descriptive Framework

2.16.3. Knowledge Manipulation Activities

Many of the descriptive frameworks identify the knowledge manipulation activities. Research into the KM indicates that some of the descriptive frameworks deal with the knowledge management activities at only the elemental level while some of the organisations deal with high level knowledge manipulation activities. The knowledge manipulation activities are mostly identified in the frameworks put forward by Wiig (1993), Van der Spek and Spijkervet (1997), Alavi (1997), Choo (1996) and Nonaka (1994). Summary of the knowledge manipulation activities identified in the framework is also shown in the diagram below

Author	Knowledge Manipulation Activities
Wiig 1993	1. Creation, 2. Manifestation, 3. Use, 4. Transfers
Choo 1996	1. Sense making (includes "information interpretation") 2. Knowledge creation 3. Decision making (includes "information process")
Van der spek and Spijkervet 1997	In the Act Process 1. Develop, 2. Distribute 3. Combine and 4. Hold
Nonaka 1996	1. Socialisation (conversion of tacit to tacit knowledge) 2. Internalisation (conversion of explicit knowledge to tacit knowledge) 3. combination (conversion of explicit knowledge to explicit knowledge) 4. externalisation (conversion of tacit knowledge to explicit knowledge)
Alavi 1997	1. Acquisition (knowledge creation and content development) 2. Indexing, 3. Filtering, 4., Linking. (activities 2,3, and 4 involve screening, classification, cataloguing, integrating, and interconnecting internal and external source) 5. Distributing (packaging and delivery of knowledge in form of web pages) 6. Application (using knowledge)

Table 2.4 Summary Knowledge manipulation activities identified in the frameworks All in all, the literature review provided above gives an overview of the terms and the concept of knowledge and the knowledge management. It also discussed various theories that lie behind the need and function of the knowledge management. The critical success factors for the implementation of the knowledge management along with the specific techniques and tools that are used in the implementation process. The benefits that the knowledge management provides to the organisations, which implement the KM, are also discussed.

Furthermore, the literature review also discusses the knowledge management frameworks that are aimed at improving the deficiencies of the traditional knowledge management. This literature review also analysed the different origins of the frameworks of the KM. It suggests

that the development of a new KM framework must ensure that all the factors that were ignored in the traditional generic and broad frameworks are taken into account.

2.17 Social Ontology And Knowledge Management Introduction

To remain competitive, it is imperative for the enterprises to implement effective knowledge management systems throughout their operations. This chapter aims to develop a social ontological framework for the implementation of KM systems within the enterprises. It starts with the explanation of the concept of social ontology and the knowledge management in detail followed by the benefits of social ontology framework as an approach for gaining the understanding about the knowledge management (Alavi and Leidner, 1997). This chapter focuses on the knowledge management episodes for the development of the ontological framework. The effect of human behaviour on the effectiveness of the knowledge management systems of the enterprises remains a key area under the focus of this chapter. The efficiency of the knowledge management systems and episodes can be maximized by ensuring that the organization remains mindful of the human behaviour and other environmental changes. The knowledge management results from collective processes taking place within the entities (Adams, Bessant and Phelps, 2008). The importance of the social aspects for the development of effective knowledge management systems, therefore, makes social ontology framework, a significant concept to be understood.

2.17.1 The Social Ontology

Ontology basically refers to a state of common or shared understanding of a particular group of people about a specific domain. Ontology results from the process of negotiation between the people of organizations. The ontologies are made social within the enterprises by the collaborative and shared organizational processes. These are the systems of the collective identities and meanings within which the individuals of the organizations exist and act (Adamson, 2005). According to the researchers, the most basic definition of ontology is that it is the reflection of reality in the form of a formalized model resulting from negotiations between the individuals of the organizations. Gaining an understanding about the knowledge relevant to the organization along with the storage and the retrieval of knowledge is facilitated with the help of ontologies. The basic purpose that the ontologies serve is the representation of knowledge in the form of formal models (Alazami and Zairi, 2003).

Researchers suggest that before all the individuals within the organizations gain a certain level of understanding related to the knowledge claims, they have to, first, agree on the

ontological distinctions of the symbols which make up those knowledge claims (Avison et al., 1999). In the rapidly changing business world today, the organizations have abundant quantities of knowledge at their disposal comprising of both structured as well as the unstructured knowledge. The collective understanding about the knowledge related claims are fluctuate constantly within the organizations. Allard and Holsapple (2002) believe that one of the main influences on the ontology of knowledge management within the organizations comes from the managerial side. However, the managerial influence cannot be regarded as the only representative of the knowledge existing within the organizations.

The knowledge management within the organizations has been defined by the researchers according to their level of understandings and experiences. The most commonly used version of the definition of this concept suggests that the knowledge management is the knowledge which is represented in the form of the organizational databases, information technology, the tacit knowledge of the employees as well as the policies and procedures. A combination of these collective as well as the distributed repositories represents the knowledge of the organizations. The communicative processes existing within the organizations facilitate the collection, sharing, management, generation and the storage of the knowledge. Therefore, the ontologies which explain the knowledge management activities are outlined as being 'social' in nature (Avison et al., 1999).

The social ontology has also been defined by many practitioners according to their own perspectives. The most widely acceptable definition of this concept defines it as the study of the social human reality. According to Martins, the social ontology framework is about investigating the social aspects of the entities and their properties. The basic reason why organizations develop the social ontological framework is to inquire the knowledge management within the organizations and to observe the organizational behavior to gain a clear understanding about the social behavior of the people working within the boundaries of the organizations (Bennett and Garbreil, 1999).

Collective intentionality remains an important concept in the social ontology. This term is defined by Sears as the presupposition of the social reality of the organizations. Collective intentionality is therefore, the state of mind by which the mental state of the individual is directed about certain objects or other states of the world (Blindenbach-Driessen, 2009). The social reality comes into existence when the individuals within the organizations share a common understanding about a certain domain or a concept. Hence, according to Sears,

people who are part of a social reality also share the intentionality to believe in certain things. This discussion on the social ontology framework and the collective intentionality also includes two phenomena named as the observer independent and the observer relative. The social reality can therefore, not be created by the humans without the presence of a collective intentionality within the organizations. When all the individuals, who take part in the generation of the organizational knowledge and in the creation of the social reality, accept the knowledge management systems within the organization, it is then that these systems make the most out of the tacit as well as explicit knowledge available. When the knowledge related models are generated, it is vital that the social element of the knowledge management ontologies are given due consideration. The ontologies and systems within the organizations which aim to outline the need and the process of knowledge management must also pay consideration to the factors which influence the willingness of the workforce to express and share their tacit along with the explicit knowledge. These factors may hinder as well as enhance the willingness of the employees about the knowledge management and sharing (Business Monitor International, 2010).

Understanding the knowledge management process requires the sociological investigations of the social rules applicable within the enterprises along with the human behaviors. The employees within the organizations, according to Martins, do not always follow their own individual set of goals and targets. Rather, they tend to follow the social rules and procedures relevant to human behaviors. Human agency is not determined by the social behaviors and structures (Casselman and Samson, 2010). The most effective features of the social human behavior and cooperation are the freedom of choice and study of the goals and values. Furthermore, the cooperation between the human also exists because of the transformations and reproductions in the ontologically distinct social behaviors and structures. The main difference between the traditional ontological approaches and the today's social ontology is that it goes into the detail of how various processes develop. The knowledge management activities of the organizations evolve constantly and their development and maintenance also takes place simultaneously, due to their social nature (Cha, Pingry and Thatcher, 2008).

Social ontology also leads to the development of algorithms which are very useful computational tools for the successful implementation of knowledge management. These are mostly helpful when the organizations have to deal with huge amounts of knowledge (Avison et al., 1999).

There are numerous methods that could be used for the knowledge management, sharing and organization within the enterprises. Social ontological framework is particularly helpful because it facilitates open communication between various individuals within the enterprises by providing them with common knowledge about a certain concept or domain. Social ontology is one of the ontological categories which deal with the static, dynamic, and intentional and the social aspects of this world. The social ontology framework covers the social settings of the enterprises as well as the permanent organizational structures and the network of collaborations and the interdependencies between the entities. The main difference between the traditional ontologies and the social ontology is the level of formalization between the two. The process of the creation, generation and the maintenance of social ontologies is also very different from the orthodox ontologies (Cheng and Chen, 2008).

2.17.2 Knowledge Management

In today's ever increasing knowledge based economy, the need for creating a competitive edge is essential for the companies. The implementation and the maintenance of knowledge management systems is one of the most effective ways which help the organizations gain competitive advantage over their competitors. There are many versions of the concept of knowledge management available in the literature. Similarly, the definitions of knowledge management are also different from one another on the basis of the assumptions and the perceptions used by the researchers who have produced those (Cohender et al., 1999). The simplest definition of knowledge management describes it as the 'justified true belief' and also distinguishes the knowledge from information on the grounds that it is the requirement of knowledge to let the information to be converted into knowledge. And a knower is a basic requirement for the conversion of information to knowledge to take place. Knowledge has, therefore, been considered really hard to transfer, share, disseminate, assimilate, generate and comprehend as compared to the information. The most commonly used definition of knowledge within the organizational boundaries is that it relates to the set of organized ideas or facts which present reasoned and clear judgments and experimental results that get transmitted to the people within the organizations via systematic mediums of communication (Crossan, Lane and White, 1999).

2.17.3 Types of Knowledge

Research work indicates that knowledge existing within the organizations is of two main types. The two types are named as the extrinsic or explicit and the intrinsic or tacit knowledge. Extrinsic or the explicit knowledge relates to the codifiable form of knowledge existing within the organizations (Chinowsky and Carrillo, 2007). Some common forms in which the extrinsic knowledge exists within the organizations are the enterprise repositories, manuals, databases and within the information systems as well as the computer systems. The other form of knowledge is the tacit knowledge which is highly personal to the people within the organizations and it exists, mainly, in the experiences and the mindsets of the individuals in the organizations. The tacit or the intrinsic knowledge has its roots in the contextual experiences of the employees and the managers within the organizations (Choi, Lee and Yoo, 2010).

To assist the organizations in creating a competitive edge in the increasing knowledge based economy, it is essential that the organizations are well equipped with ways of generating, capturing, sharing, using and disseminating explicit as well as the tacit knowledge. Since that tacit knowledge is personal to the individuals, the organizations have to ensure that the employees and the managers are encouraged to share and apply the knowledge that they possess actively with their organizations in order to facilitate the development of effective KM systems and aids (Chinowsky and Carrillo, 2007).

2.17.4 Explanation of the Concept of Knowledge Management

Enterprises of all types and sizes require well structured knowledge management systems and processes in place. The degree to which these KM systems and procedures are pursued within the businesses varies constantly. Research indicates, however, that in the large as well as the small businesses, the knowledge management works with the major objective of bringing improvements in the long term as well as the short term performance related to the knowledge (Datamonitor, 2010). According to the researchers and the practitioners, the most common definition used by the competent enterprises states that the knowledge management is the 'systematic, explicit and the deliberate management of the knowledge related processes and intellectual capital assets of the organizations and the creation of the capabilities to build, renew, utilize and safeguard the knowledge to maximize the enterprise's knowledge related effectiveness and returns from the intellectual capital assets operationally, tactically and strategically' (Drucker, 1987; Economist Intelligence Unit, 2010).

The researchers suggest that the most obvious reason behind the application of knowledge management and sharing within the organizations has always remained to ensure that the knowledge related processes of the business were facilitated systematically and actively at all times (Aylon et al., 1999). Knowledge management also provided guidance to the human behaviors, activities and the processes related to the knowledge within the entities. It helps the enterprises pursue initiatives in all sorts of domains at almost all the managerial levels within the businesses. Knowledge management is not a stand- alone activity. Rather, it is an integrated field that has connections with numerous disciplines. The operational performance of the enterprises gets positively impacted by the introduction of knowledge management as it facilitates and allows the use of existing knowledge related assets of the enterprises in conjunction with the ongoing routine work of the organizations. Knowledge management provides a forward looking horizon to the operations of the entities and also assists them in developing new knowledge related assets and capabilities (Elashaheb, 2005). The knowledge management is not only confined to the process of generating, harvesting, sharing, disseminating, codifying and embedding new and improved knowledge systems and procedures within the entities. Rather, it also involves the provision of knowledge related education, training and the required infrastructure to the entity. Knowledge management is not only relevant in the operational activities. Instead, it also assists at the tactical as well as the strategic level of the organizations (Aylon et al., 1999). Some of the aspects where knowledge management may provide immense contribution within the entity are outlined in the diagram provided below.

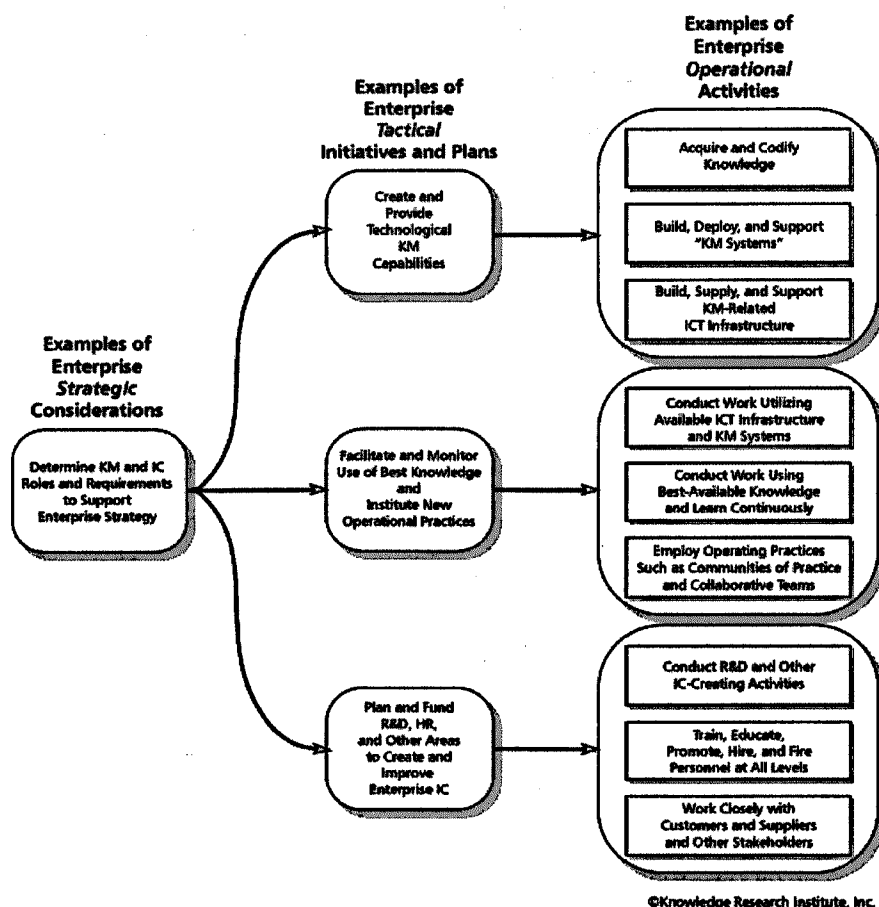


Figure 2.11: Examples of strategic, tactical, and operational KM-related considerations, plans, initiatives, and activities from Faber, N., Peters, K., Maruster, L., van Haren, Rob & Jorna, R. (2010) 'Sense Making of (Social) Sustainability'. *International Studies of Management & Organization*, Fall, 40(3), pp. 8-22.

2.17.5 The Purpose of Knowledge Management within the Enterprises

The level of competence that all enterprises have arises from the combination of knowledge as well as the intellectual and physical capabilities at the disposal of the organizations. The knowledge relates to not only the personal knowledge possessed by the employees and the management but also includes the organization related knowledge. The form in which the knowledge exists can either be tacit, explicit, embedded or implicit. The application of knowledge management systems ensure that all organizations have a systematic management system for their short term as well as the long term goals and objectives related to the knowledge (Fairclough, 2005).

The purpose of the application of knowledge management into the enterprises is to ascertain that all types of intellectual capital assets are always advantageous for the companies. The KM systems and processes help the organizations build, maintain, share and safeguard the intellectual capital assets of the organizations in the short term as well as in the long term business plans and initiatives. The implementation of effective knowledge management systems makes the companies able to make more knowledgeable and informed decisions (Frost and Sullivan, 2009). Deliberate KMS enables the employees, managers and the automated systems to perform with greater improvement in the operational, tactical and the strategic levels within the organizations. KM also ensures that all the people within the enterprises share a common understanding about numerous areas of the businesses and implement the strategies and aims of the organizations with greater effectiveness and efficiency. The shared understanding is brought in by the social ontological framework which then allows the KM systems to operate effectively on the basis of the common understanding. Another contribution of the knowledge management systems to the organizations is that it ensures that all the intellectual capital assets of the enterprise are safeguarded and exploited at their maximum (Fong and Kwok, 2009).

Most of the organizations today depend on the availability of structured as well as the unstructured knowledge in order to handle the constantly changing dynamic business world. The unanticipated opportunities and threats arising from both the internal as well as the external environment of the entities require up- to- data knowledge at all times. Therefore, effective knowledge management systems and processes are essential to provide the entities with their required knowledge to help them meet the ever increasing business demands (Gabberty and Thomas, 2007).

According to the literature available on the domain of knowledge management, there are differing perspectives proposed by the researchers and the practitioners relevant to this subject. The knowledge management literature is derived from two main schools of thought. The first primary school of thought relates to the existing knowledge available within the enterprises in explicit forms such as in the form of manuals, databases and computer technology etc. The second school of thought relates to the creation and the generation of new distinct knowledge. The first school of thought defined the knowledge management processes as symmetric and organizationally specific in nature. The emphasis of this school of thought remains on the tools and aids that are used to collect, store and share the existing knowledge within the entities. The symmetric knowledge management processes as identified

by the first school are significant for the acquisition, organization and the communication of the tacit as well as the explicit knowledge existing within the businesses (Gottschalk, 1999).

The second school of thought discusses the knowledge management in an environmental context. The environmental context relevant to the knowledge is studied very closely to generate and retrieve the required information to increase the effectiveness of the decision making process and to cause the generation of new knowledge within the organizations. The knowledge management is not to be considered as a separate system or process (Gunasekaran and Ngai, 2007). Rather, it is collectively owned by all individuals within the organizations and is considered as a responsibility of the entire workforce as well as the management of the enterprise. The knowledge management is an important element of the structure or the enterprises. Social ontological approach is commonly referred as a strategic leadership approach that comprises of open communication channels and flat hierarchical structures. The creation of the shared social reality within the organizations is, therefore, facilitated by the combination of knowledge management with effective human resource management and total quality control management systems (Hassell, 2007).

Sharing the tacit and the explicit business knowledge refers to the utilization of knowledge about the internal business process along with the external matters such as the identification of the needs and requirements of the customers and the governmental policies and regulations affecting the business. The social ontological approach to the knowledge management refers to the creation of a collective intentionality within the enterprises as also mentioned in the discussion above. The competitive advantage is enjoyed by the enterprises when their employees become the knowledge workers and share, disseminate and generate explicit and tacit knowledge at their disposal. The employees are more aware about the internal as well as the external matters relating to their entities and they therefore, feel more motivated towards working for the betterment of their organizations (Holsapple and Singh, 2000).

The creation of new organizational knowledge and its management has been under the great focus of the academic researchers and practitioners. Nonaka has researched the interrelationship between the tacit and explicit knowledge in the knowledge spiral concept that he has put forward. Furthermore, the relationship of the communication between the tacit and explicit knowledge is explained by four processes namely socialization, externalization, internalization and combination. According to Nonaka, the basic emphasis of knowledge

management remains onto the externalization and the combination of the tacit knowledge (Hong and Vai, 2008).

Understanding the exact knowledge needs of the organizations is imperative for the employees and the management within them. It is essential that they perceive the organizations in the same manner as they appear to their owners i-e their shareholders. The sharing of the required knowledge has to be, therefore, improved by the creation of effective systems for the categorization and the combination of the two types of knowledge. The activities and programs relating to knowledge management enable the employees and the managers to share their knowledge. However, research indicates that the existence of knowledge related technology in the enterprise is never sufficient (HR Focus, 2007).

The effectiveness of knowledge management systems also depends on the culture within the organizations. Researchers have also considered change management as necessary for the application of social ontological approach towards knowledge management. The concept of knowledge management has also been regarded as the successor of the concept of the total quality management (TQM). This is so because the knowledge management contributes towards improving the quality of the processes and systems within the enterprises and is regarded as an important quality measurement tool. According to Waddelf, the concept of knowledge management includes the two variables named as the knowledge acquisition and knowledge dissemination. The variables don't only occur at the organizational level but also at the customer level (Adams, Bessant and Phelps, 2008).

The concept of knowledge acquisition is related to the processes and programs that are initiated by the organizations to identify and scrutinize the key needs and requirements of the major customers of the entities. The knowledge acquisition is actually regarded as the first step towards the implementation of knowledge management. At this stage, the enterprises have to ensure that they have effective quality control procedures in place to make sure that the customer- related information is readily available for informed and timely decision making within the entities (Adamson, 2005).

The knowledge management systems have been extremely helpful in bringing together and categorizing the explicit knowledge from various sources within the organizations. The second variable is the knowledge dissemination which is useful for fulfilling the knowledge needs of the internal environment of the organizations. The knowledge dissemination focuses on tacit knowledge in contrast with knowledge acquisition which has the major focus onto the

analysis and gathering of explicit knowledge (Casselman and Samson, 2010). The implementation of knowledge management systems also, according to Lee and Yang, improves the motivational level of the employees and the managers and therefore, helps raise the quality of the products and services of the organizations. The knowledge management systems build up a knowledge sharing environment within the organizations to disseminate the knowledge by systematic processes. Organizational culture has always remained an important component of the knowledge management systems application. Employees who share, disseminate, generate and develop tacit as well as explicit knowledge are retained by the organizations as compared to those who are less willing to participate in the knowledge related activities (Alazami and Zairi, 2003).

The knowledge management related personnel is also highly important for the strengthening of the link between the knowledge management itself and the TQM (Adamson). Furthermore, one of the key roles played by the knowledge managers is to create the awareness amongst the people within the organizations about the concept of knowledge management and sharing. According to Alazmi and Zairi (2003), the business excellence and competitiveness is greatly influenced by the knowledge management. Companies have to ensure their survival in the today's global environment by maximizing their knowledge capabilities and innovation skills. The organizational learning is also influenced by the implementation of knowledge systems within the enterprises. The theory put forward by Nonaka and Takeuchi is called the theory of organizational knowledge creation and it places importance on the tacit as well as explicit knowledge. Thus, organizational culture, structure and the environment has a great effect on the knowledge management and sharing processes within the entities (Allard and Holsapple, 2002).

2.17.6 Social Ontology for Knowledge Management Systems

The social ontological framework has been outlined as being particularly important for the implementation of the knowledge management systems within the enterprises. The traditional ontology did not tend to put much focus onto the shared understanding as compared to the social ontologies. The social ontology is determined by shared interactions and structures relevant to a certain domain related to the enterprise. The research work, however, suggests that for the knowledge management systems to be successfully implemented, it is vital that they are aligned with the organizational culture and structure so that the enterprises remain open for change at all times and encourage the collective organizational learning (Kearns and Sabherwal, 2006). Research work indicates that knowledge management systems must

consider that the behavior of the employees as well as the managers is determined also by a social ontology which in itself is a blend of the concept of collective intentionality and common understanding. These two elements remain constantly fluctuating. The knowledge must therefore not focus onto the knowledge need analysis primarily. Rather, it should lay emphasis on appreciative enquiry by making use of the social phenomenon outlined above. Furthermore, the effective knowledge systems initially outline the most appropriate knowledge and then work to comprehend the creation process of the knowledge. The systems also work to further strengthen the people and processes which are capable of providing the best knowledge solutions within the entities (King, 2010).

Moreover, the knowledge management systems ensure that explicit or the extrinsic knowledge is made available to the employees of the organizations so that they become the knowledge workers and own and initiate knowledge management episodes by creating collective appreciative enquiries. The managers of the organizations must therefore focus more on strengthening the relationships between the KM systems and the knowledge users within the entity instead of developing the tangible knowledge management systems and procedures. The knowledge managers must also encourage excellence by facilitating the workforce in identifying the preconditions for excellence. In addition to it, the development of collective intentionality also requires the consideration of organizational culture and the social behavior of the people within the enterprises. The social ontology for the KM must focus on the elements that are mandatory for the collective ownership of the knowledge management activities and episodes to encourage the maintenance of the competitive advantage of the entities (Kosturiak, 2010).

2.17.7 KM Interlinked with the Social Ontological Framework

As outlined above, knowledge management is clearly a social process as it deals with the social aspects relevant to the social realities. Research work indicates that the social ontological principles and rules can be applied when developing the theoretical framework for the activities relating to the knowledge management. This interlink between the social ontology framework and the development of the KM systems can be beneficial for the organizations as it leads to an apparent improvement in the organizational performance by making the workflow smoother and the organizational structure less complex. Ontology, generally, means to represent some concept or a domain specifically. The organizational performance improves when all the people within it come to agree on a shared understanding about a set of symbols and concepts (Kulkarni, Ravindran and Freeze, 2006; 2007). These

shared understandings are never created by the management or the organization or by its vision, aims or the objectives. Rather, these common understandings are developed collectively when every individual in the organization takes part in it. The social ontological framework therefore, tends to explain the behaviour of the people within the organizations in their social contexts. The social interaction within the enterprises is determined by the individuals who balance the structure with agency. The presence of the social interactions causes the managers to create processes that are relevant to the knowledge management and sharing. These processes, then, encourage the employees to convert themselves into knowledge workers who share and disseminate the tacit as well as explicit knowledge which they possess. The organizations create competitive advantage for themselves with the use of the social ontological framework combined with the implementation of the knowledge management systems. In today's business world that requires constant generation, application and the updating of knowledge, the social ontology is particularly helpful and effective as it allows the knowledge management systems to take the social processes of agency as well as the organizational structure into account (Lai and Fan, 2002).

2.18 Summary

This chapter has laid foundation of the Business Organisational Knowledge Management Integrated Social Ontology Framework (BOKMISOf) within the literature. The BOKSIMOF is the synthesis of the best practices within the variety of existing KM frameworks. A special emphasis on the social ontological literature review is also presented. The applicability of the social ontological principles for knowledge management and sharing has remained some specific areas under the discussion in this chapter as the existing literature on KM and social ontology suggests the two concept as essential for the competitive advantage of the enterprises in the knowledge based economy (Avilon et al., 1999). The chapter begins with the explanation of the two concepts and also puts light onto the interrelationship between the two areas. The chapter concludes that the development of the knowledge management systems must start with the creation of awareness about the social phenomenon called the collective intentionality. The knowledge managers must not carry out the analyses related to the knowledge management without giving due consideration to the knowledge possessed by the employees. More research work need s to be carried out on strengthening the social ontological framework so that it also includes all the variables that may have an influence onto the application of knowledge management within the entities. All in all, the chapter lays its focus onto the fact that the utilization of a social ontology which provides the entities with

shared understanding about various domains relating to the organizations is essential for the improved organizational performance. The implementation of knowledge management systems must also include the social ontology so that employees within the enterprises become the knowledge workers and take initiatives for the sharing, applying and the accessing of the knowledge for the competitive advantages for their enterprise.

From the literature review the following framework has been developed which is evaluated through further reflection and case studies to produce the final BOKMISO shown in Chapter Three .

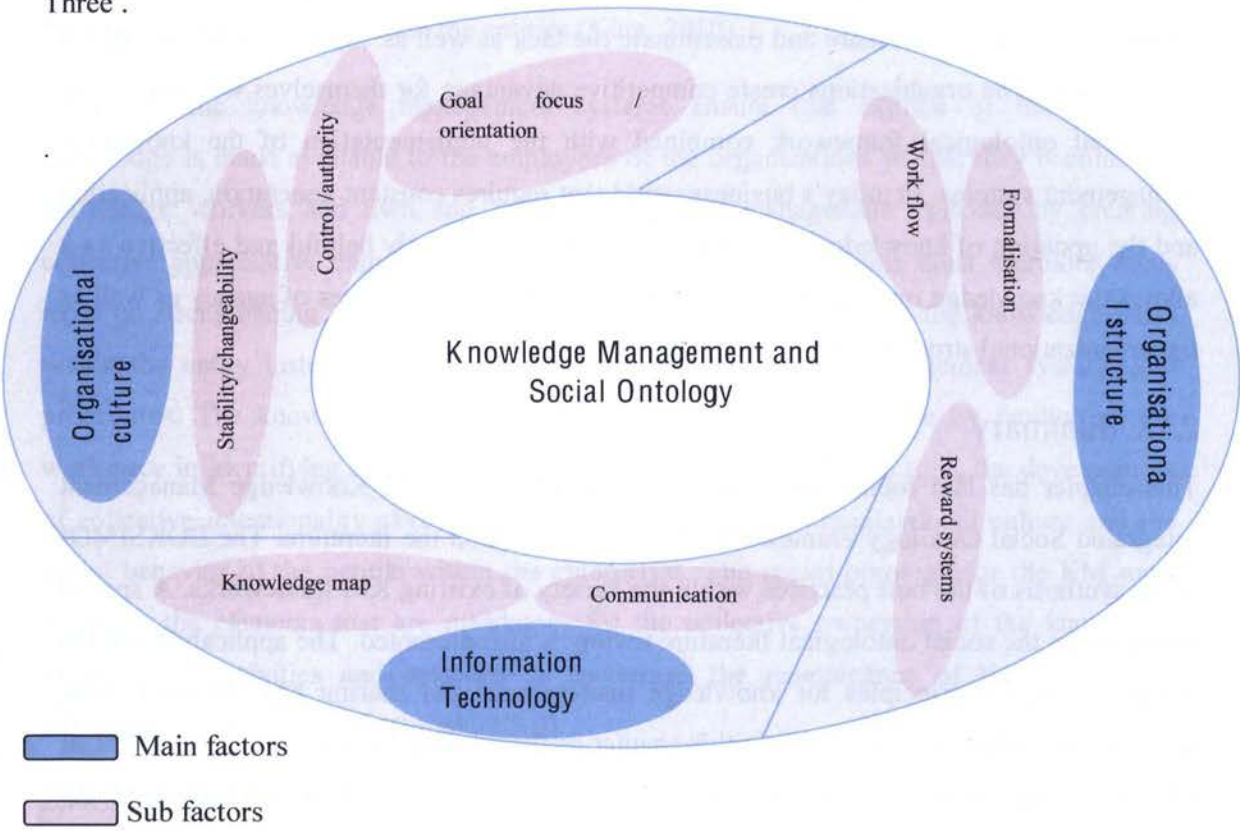


Figure 2.12. A Social Ontology Framework for the Telecommunications Industry in the Saudi Arabia and the Gulf States.

CHAPTER THREE: Business Organisation Knowledge Management Integrated Social Ontology Framework BOKMISO

3.1. Introduction

The chapter presents the BOKMISO framework in detail and the formulation of hypotheses and the development of the research design to evaluate the framework. The BOKMISO is based on various theories, models and approaches. The theoretical concepts in this framework are based on the Research outline discussed in Section 1.3. The BOKMISO takes into consideration, KM concepts, business organisational context, structure and culture and social ontology. As a result of building the BOKMISO framework, five main hypotheses containing sub hypothesis were developed. The research hypothesis is tested in a case study in the telecommunication industry in Saudi Arabia and these hypotheses have a direct link to this case study. Each hypothesis helped in preparing the questionnaire and semi-structured interview that was collected from Telecommunication Industry in Saudi Arabia and Gulf State. The social issues are also discussed, as related to the social ontology which impacts the business organisational KM issues in Saudi Arabia.

Moreover, in this chapter the first hypothesis is based on relationship between organisational cultures, which contains sub hypothesis based on different variables related to organisational culture. The second hypothesis is based on organisational structure, which shows positive relationship between workflow of the organisation and KM. The third hypothesis is based on KM strategies, which are divided further in eleven-sub hypothesis. The sub-hypotheses are designed based on various factors of KM strategies, which help organisation maintain their business. The last hypothesis is based on KM tools and mechanisms, which plays important role in further innovation, decision-making, development, training and so on.

Figure 3.1 below presents the BOKMISO. Each component of this framework is based on various issues that have been developed from the synthesis of existing organisational knowledge management frameworks as discussed in chapter 2 and discussed further in this chapter Section 3.2 and 3.3. This framework has a organisational context which is based on organisational culture and organisational structure. It takes into consideration Knowledge Management strategies, tools, mechanisms and workflow. It incorporates the Knowledge Management Cycle and the various Knowledge management components. A social ontology is integrated with this Organisational Knowledge Management Framework. Table 3.1

presents the "social ontology" in detail. This is a set of social concepts that have a common meaning in the industry of telecommunications in the Kingdom of Saudi Arabia and the Gulf states. Research has been conducted evaluating Bokmisov work and this was further tested with the qualitative and quantitative analysis as described in Chapter 4..

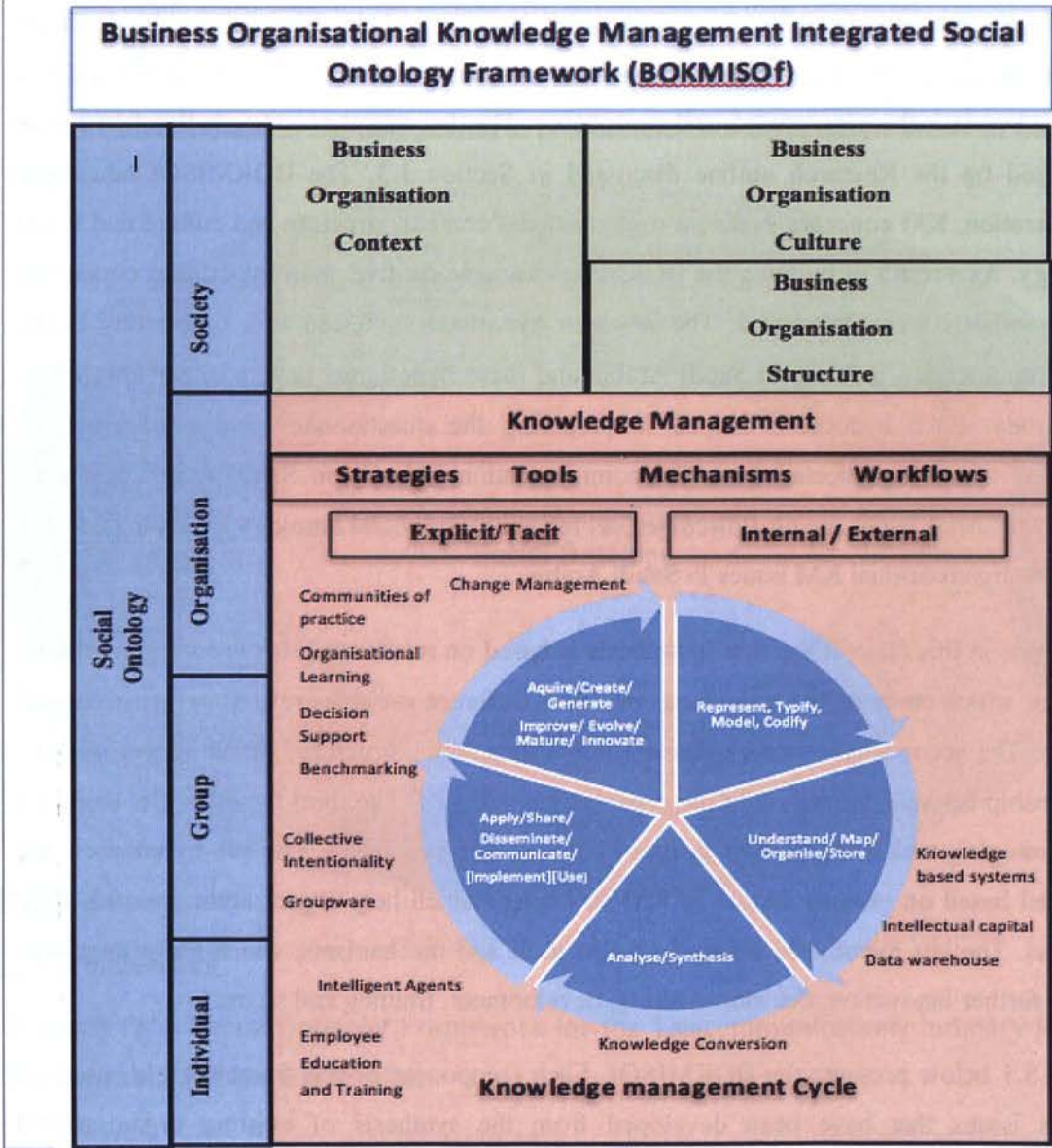


Figure 3.1 Business Organisation Knowledge Management Integrated Social Ontology Framework (BOKMISOf)

3.1.1. Social Ontology

The structure of the Social Ontology is based on the Enterprise Ontology (Uschold et.al. 1998), except that in this thesis we are dealing of Social terms and definitions. The "social ontology" three categories or levels: community (S) and the organization (s), and group (g) and the individual (i). Community level is not in the scope of this paper. A detailed

description of "social ontology", a list of terms and definitions relevant to the areas on three levels of social Ogi. As can be seen from "diagram 3.1 Bokmisov", has been integrated "social ontology" within the business and knowledge management components. The "social ontology" in Table 1 below..

Social Level Concepts			
	Individual	Group	Organisation
1. Ethics	A system of <u>moral</u> principles affecting how Individuals make <u>decisions</u> about their <u>viewpoint</u> on what is right and wrong.	A system of <u>moral</u> principles affecting how Groups make <u>decisions</u> about their <u>viewpoint</u> on what is right and wrong.	A system of <u>moral</u> principles affecting how Organisations make <u>decisions</u> about their <u>viewpoint</u> on what is right and wrong.
2. Tradition	An individual that continues an established way of <u>thinking</u> that continues as a pattern of <u>culture</u> , <u>beliefs</u> and <u>behaviour</u> .	A group that continues an established way of <u>thinking</u> that continues as a pattern of <u>culture</u> , <u>beliefs</u> and <u>behaviour</u> .	An organisation that continues an established way of <u>thinking</u> that continues as a pattern of <u>culture</u> , <u>beliefs</u> and <u>behaviour</u> .
3. Culture	A set of <u>characteristics</u> defining Individual <u>tradition</u> , <u>beliefs</u> and <u>lifestyles</u> .	A set of <u>characteristics</u> defining Group <u>tradition</u> , <u>beliefs</u> and <u>lifestyles</u> .	A set of <u>characteristics</u> defining Organisation <u>tradition</u> , <u>beliefs</u> and <u>lifestyles</u> .
4. Work	A set of <u>tasks</u> an individual performs to <u>achieve a goal</u> .	A set of <u>tasks</u> a group performs to <u>achieve a goal</u> .	A set of <u>tasks</u> an organisation performs to <u>achieve a goal</u> .
5. Recognition	Individual <u>acknowledgement</u> of <u>achievement</u>	Group <u>acknowledgement</u> of <u>achievement</u>	Organisation <u>acknowledgement</u> of <u>achievement</u>
6. Acknowledge	To <u>recognise</u> , <u>appreciate</u> and <u>accept</u> individual <u>contribution</u> to the individual <u>goal</u>	To <u>recognise</u> , <u>appreciate</u> and <u>accept</u> group <u>contribution</u> to the group <u>goal</u>	To <u>recognise</u> , <u>appreciate</u> and <u>accept</u> organisation <u>contribution</u> to the organisation <u>goal</u>
7. Accept	Individual <u>consent</u> or <u>agreement</u>	Group <u>consent</u> or <u>agreement</u>	Organisation <u>consent</u> or <u>agreement</u>
8. Identity	Set of <u>characteristics</u> belonging to an individual.	Set of <u>characteristics</u> belonging to a group.	Set of <u>characteristics</u> belonging to an organization
9. Motivation	Individual <u>drive</u> towards a desired <u>goal</u>	Group <u>drive</u> towards a desired <u>goal</u>	Organisational <u>drive</u> towards a desired <u>goal</u>

10. Problems	An Individual situation that presents some <u>difficulty</u>	A group situation that presents some <u>difficulty</u>	An Organisation situation that presents some <u>difficulty</u>
11. Loyalty	An Individual <u>commitment</u> to <u>trust</u> and follow their individual <u>goals</u> .	A group <u>commitment</u> to <u>trust</u> and follow their group <u>goals</u> .	An organisation <u>commitment</u> to <u>trust</u> and follow their organisation <u>goals</u> .
12. Collective Identity	An individual sense of belonging to a group.	A group sense of belonging to a organisation.	An organisation sense of belonging to a society.
13. Hesitation	An individual <u>delaying</u> a <u>decision</u> or <u>action</u>	A group <u>delaying</u> a <u>decision</u> or <u>action</u>	An organisation <u>delaying</u> a <u>decision</u> or <u>action</u>
14. Confidence	An individual certain about a <u>decision</u> or <u>action</u>	A group certain about a decision or action	A organisation certain about a decision or action
15. Mistake	An individual error or <u>failure</u>	A group error or <u>failure</u>	An organisation error or <u>failure</u>
16. Reputation	Individual opinion about other individuals	Group opinion about other groups	Organisation opinion about other organisations
17. Character	A set of <u>moral</u> features of an individual	A set of <u>moral</u> features of a group	A set of <u>moral</u> features of an organisation
18. Strategy	Individual direction and <u>plan</u> to <u>achieve</u> a <u>goal</u>	Group direction and <u>plan</u> to <u>achieve</u> a <u>goal</u>	Organisation direction and <u>plan</u> to <u>achieve</u> a <u>goal</u>
19. Attitude	An individuals <u>thinking</u> , <u>feeling</u> and <u>action</u> to various <u>situations</u>	A group <u>thinking</u> , <u>feeling</u> and <u>action</u> to various <u>situations</u>	An organisation <u>thinking</u> , <u>feeling</u> and <u>action</u> to various <u>situations</u>
20. Worry	An individual <u>anticipation</u> of future <u>problems</u>	A Group's <u>anticipation</u> of future <u>problems</u>	An organisation's <u>anticipation</u> of future <u>problems</u>
21. Enthusiasm	An individual's energetic interest about individual activities	A group's energetic interest about group activities	An organisation's energetic interest about organisation activities
22. Discipline	Individual acting according to individual rules	Group acting according to group rules	An organisation acting according to organisation rules
23. Habit	An individual's regular and repeated activities	An group's regular and repeated activities	An organisation's regular and repeated activities
24. Health	A <u>condition</u> where an individual is performing to an optimal level	A <u>condition</u> where a group is performing to an optimal level	A <u>condition</u> where an organisation is performing to optimal level
25. Harmony	Individual <u>agreement</u> and <u>alignment</u> within the individual.	Group <u>agreement</u> and <u>alignment</u> within the group.	Organisation <u>agreement</u> and <u>alignment</u> within the organisation

26. Collective Working	<u>Collection</u> of individuals that <u>regulate</u> their own <u>tasks</u>	<u>Collection</u> of groups that <u>regulate</u> their own <u>tasks</u>	<u>Collection</u> of organisations that <u>regulate</u> their own <u>tasks</u>
27. Communication	Sending or receiving <u>information</u> by individual	Sending or receiving <u>information</u> by a team or group	Sending or receiving <u>information</u> by an organization
28. Responsibility	An individual being <u>accountable</u> for what is within their <u>control</u>	A group being <u>accountable</u> for what is within their <u>control</u>	An organisation being <u>accountable</u> for what is within their <u>control</u>
29. Task	It is a piece of <u>work</u> assigned to an individual to complete	It is a piece of <u>work</u> assigned to a group to complete	It is a piece of <u>work</u> assigned to an organization to complete
30. Trust	A <u>confident</u> expectation of an individual	A confident expectation of a group	A confident expectation of an organisation
31. Feelings	An individual's <u>experience</u> of sensations and <u>emotions</u>	A groups <u>experience</u> of sensations and <u>emotions</u>	An organisation's <u>experience</u> of sensations and <u>emotions</u>
32. Experience	An individual's special <u>skills</u> and knowledge.	A group's special <u>skills</u> and knowledge.	An organisation's special <u>skills</u> and knowledge..
33. Influence	An individual's <u>ability</u> to compel other individuals, groups or organisations to a certain <u>action</u> , <u>behaviour</u> or <u>opinion</u>	A groups <u>ability</u> to compel other individuals, groups or organisations to a certain <u>action</u> , <u>behaviour</u> or <u>opinion</u>	An organisation's <u>ability</u> to compel other individuals, groups or organisations to a certain <u>action</u> , <u>behaviour</u> or <u>opinion</u>
34. Behaviour	An aggregate of all the <u>actions</u> performed by the individual	An aggregate of all the <u>actions</u> performed by the group	An aggregate of all the <u>actions</u> performed by the organisation
35. Adaptability	It is the <u>ability</u> of an individual to change or to be changed	It is the <u>ability</u> of a team to change or to be changed	It is the <u>ability</u> of an organization to change or to be changed
36. Happiness	An individual <u>feeling good</u>	A group <u>feeling good</u>	An organisation <u>feeling good</u>
37. Caring	An individual showing concern or empathy	A group showing concern or empathy	An organisation showing concern or empathy
38. Depression	An individual <u>feeling bad</u>	An individual <u>feeling bad</u>	An individual <u>feeling bad</u>

39. Inadequateness	An individual missing what is <u>necessary</u>	A group missing what is <u>necessary</u>	An organisation missing what is <u>necessary</u>
40. Fear	An individual's <u>anticipation</u> of future <u>problems</u>	A group's <u>anticipation</u> of future <u>problems</u>	An organisation's <u>anticipation</u> of future <u>problems</u>
41. Confusion	An individual's lack of <u>clarity</u>	An group's lack of <u>clarity</u>	An organisation's lack of <u>clarity</u>
42. Anger	An individual <u>bad feeling</u> resulting from a sense of <u>injustice</u>	A group <u>bad feeling</u> resulting from a sense of <u>injustice</u>	An organisation <u>bad feeling</u> resulting from a sense of <u>injustice</u>
43. Remorse	An individual <u>bad feeling</u> resulting from their bad <u>actions</u>	A group <u>bad feeling</u> resulting from their bad <u>actions</u>	An organisation <u>bad feeling</u> resulting from their bad <u>actions</u>
44. Abundance Mentality	A individual <u>belief</u> that there is plenty	A group <u>belief</u> that there is plenty	An organisation <u>belief</u> that there is plenty
45. Scarcity Mentality	An individual <u>belief</u> that there is lack	A group <u>belief</u> that there is lack	An organisation <u>belief</u> that there is lack
46. Ego	It is a <u>feeling</u> where an individual feels self-importance	It is a <u>feeling</u> where a team feels self-importance	It is a <u>feeling</u> where an organization feels self-importance
47. Arrogance	An individual <u>feeling</u> of being superior to other individuals	A group <u>feeling</u> of being superior to other individuals	An organisation <u>feeling</u> of being superior to other individuals
48. Pride	An individual <u>good feeling</u> resulting from their own <u>achievements</u>	A group <u>good feeling</u> resulting from their own <u>achievements</u>	An organisation <u>good feeling</u> resulting from their own <u>achievements</u>
49. Success	It is a state where an individual accomplished his aims and goals	It is a state where a group accomplished his aims and goals	It is a state where an organization accomplished his aims and goals
50. Failure	It is a state where an individual does not accomplish his aims and goals	It is a state where a team does not accomplish his aims and goals	It is a state where an organization does not accomplish his aims and goals
51. Resilience	It is a state in which an individual continually recovers from <u>difficulties</u>	It is a state in which a group continually recovers from <u>difficulties</u>	It is an organisation continually recovers from <u>difficulties</u>
52. Tolerance	It is an experience of enduring some opinion or behaviour that individual dislike	It is an experience of enduring some opinion or behaviour that group dislike	It is an experience of enduring some opinion or behaviour that organization dislike

53. Competence	It is the <u>ability</u> of an individual to do something sufficiently or efficiently	It is the <u>ability</u> of a team to do something sufficiently or efficiently	It is the <u>ability</u> of an organization to do something sufficiently or efficiently
54. Learning	It is the act of an individual by gaining or acquiring knowledge through study or experience	It is the act of group by gaining or acquiring knowledge through study or experience	It is the act of an organization by gaining or acquiring knowledge through study or experience
55. Teaching	It is an act individual to help or to make someone to learn	It is an act of team to help or to make someone to learn	It is an act of organisation to help or to make someone to learn
56. Discovering	It is an experience which individual find out or learn about something unknown and unexpected	It is an experience which a group find out or learn about something unknown and unexpected	It is an experience which organization find out or learn about something unknown and unexpected
57. Inventing	It is an act of individual to find or discover something unknown	It is an act of group to find or discover something unknown	It is an act of organization to find or discover something unknown
58. Laziness	It is an act of individual to resist or dislike working	It is an act of team to resist or dislike working	It is an act of an organization to resist or dislike working
59. Pessimism	Act of an individual of lacking optimism and enthusiasm	Act of team or group of lacking optimism and enthusiasm	Act of an organization of lacking optimism and enthusiasm
60. Optimism	The equality of individual being encouraging, promising of a successful outcome	The equality of group being encouraging, promising of a successful outcome	The equality of organization being encouraging, promising of a successful outcome
61. Morals	It is a standards of individual to define what is right and what is wrong	It is a standards of group to define what is right and what is wrong	It is a standards of organization to define what is right and what is wrong
62. Decision	It is a conclusion or resolution which an individual arrive to it after consideration	It is a conclusion or resolution which a team arrive to it after consideration	It is a conclusion or resolution which an organization arrive to it after consideration
63. Viewpoint	It is a place or position where individual can be viewed from	It is a place or position where group can be viewed from	It is a place or position where an organization can be viewed from
64. Lifestyle	It is a way or style of living by an individual	It is a way or style of living by a group	It is a way or style of living by an organization
65. Goal	It is a result or objectives which individual aims to	It is a result or objectives which a group aims to	It is a result or objectives which

	achieve	achieve	organization aims to achieve
66. Contribution	It is a part or <u>role</u> played by an individual	It is a part or <u>role</u> played by a team	It is a part or <u>role</u> played by an organization
67. Power	It is the <u>ability</u> of an individual to do something effectively	It is the <u>ability</u> of a group to do something effectively	It is the <u>ability</u> of an organization to do something effectively
68. Commitment	It is an act where individual pledge to do something	It is an act where team pledge to do something	It is an act where organization pledge to do something
69. Quality	It is a character which defines individual of being <u>good</u> or <u>bad</u>	It is a character which defines team of being good or bad	It is a character which defines organization of being good or bad
70. Vision	It is a manner which individual can see or conceives of something	It is a manner which a group can see or conceives of something	It is a manner which organization can see or conceives of something
71. Networking	It is sharing of information among individual	It is sharing of information among group	It is sharing of information among organization
72. Choice	It is a right of an individual to have the option to select	It is a right of group to have the option to select	It is a right of an organization to have the option to select
73. Patience	It is the <u>ability</u> of an individual to be tolerant or to endure pain	It is the <u>ability</u> of group to be tolerant or to endure pain	It is the <u>ability</u> of an organization to be tolerant or to endure pain
74. Courage	It is the power of an individual to deal with danger or fear in <u>confidence</u>	It is the power of a group to deal with danger or fear in <u>confidence</u>	It is the power of an organization to deal with danger or fear in <u>confidence</u>
75. Etiquette	It is a code which individual practice among groups	It is a code which team practice among groups	It is a code which an organization practice among <u>society</u>
76. Legacy	It is something handed down to individual from predecessor	It is something handed down to group from predecessor	It is something handed down to organization from predecessor
77. Consent	It is an agreement or acceptance of an individual from what is planned	It is an agreement or acceptance of a group from what is planned	It is an agreement or acceptance of an organization from what is planned
78. Agreement	It is a contract or settlement which individual agree to it	It is a contract or settlement which team agree to it	It is a contract or settlement which organization agree to it
79. Value	It is something which individual <u>posses</u> and considered worthy to have	It is something which group <u>posses</u> and considered worthy to have	It is something which organization <u>posses</u> and considered worthy to have
80. Skills	It is a set of <u>techniques</u> an individual possesses.	It is a set of <u>techniques</u> a group possesses.	It is a set of <u>techniques</u> an organisation possesses.

81. Training	It is a <u>practice</u> or instructions which individual do to be professional	It is a <u>practice</u> or instructions which group do to be professional	It is a <u>practice</u> or instructions which organization do to be professional
82. Focus	It is the <u>ability</u> of an individual to <u>concentrate</u> their <u>attention</u>	It is the <u>ability</u> of a group to <u>concentrate</u> their <u>attention</u>	It is the <u>ability</u> of an organisation to <u>concentrate</u> their <u>attention</u>
83. Flexibility	It is <u>ability</u> of individuals to adjust and change when required.	It is <u>ability</u> of groups to adjust and change when required.	It is <u>ability</u> of organisations to adjust and change when required.
84. Alignment	It is a <u>process</u> by which individuals adjust, match and correspond to different <u>concepts</u> .	It is a <u>process</u> by which groups adjust, match and correspond to different <u>concepts</u> .	It is a <u>process</u> by which organisations adjust, match and correspond to different <u>concepts</u> .
85. Good	It is the right things or the advantage to the individual	It is the right things or the advantage to the group	It is the right things or the advantage to the organization
86. Bad	Individual not being able to do things well	Group not being able to do things well	Organization not being able to do things well
87. Anticipation	Feeling of individual for expecting thing to be happened	Feeling of group for expecting thing to be happened	Feeling of organization for expecting thing to be happened
88. Difficult	Individual struggle to complete a <u>task</u>	Group struggle to complete a <u>task</u>	Organisation struggle to complete a <u>task</u>
89. Ability	An individual's power to perform a <u>task</u>	A group's power to perform a <u>task</u>	An organisation's power to perform a <u>task</u>
90. Necessary	An individual's essential requirement	A group's essential requirement	An organisation's essential requirement
91. Clarity	The <u>ability</u> of an individual to see things without any <u>difficulty</u>	The <u>ability</u> of a group to see things without any <u>difficulty</u>	The <u>ability</u> of an organisation to see things without any <u>difficulty</u>
92. Concentrate	The <u>ability</u> of an individual to focus on a <u>task</u>	The <u>ability</u> of a group to focus on a <u>task</u>	The <u>ability</u> of an organisation to focus on a <u>task</u>
93. Attention	The <u>ability</u> of individual to direct their <u>concentration</u> .	The <u>ability</u> of a group to direct their <u>concentration</u>	The <u>ability</u> of an organisation to direct their <u>concentration</u>
94. Technique	It is a method by which an individual preforms a <u>task</u>	It is a method by which a group preforms a <u>task</u>	It is a method by which an organisation preforms a <u>task</u>
95. Posses	The ability of individual to have or own something	The ability of group to have or own something	The ability of organization to have or own something
96. Drive	The ability of individual to <u>control</u> the direction	The ability of group to <u>control</u> the direction	The ability of organization to <u>control</u> the direction

97. Control	An individual's ability to direct power	A group's ability to direct power	An organisation's ability to direct power
98. Difficulty	Individual struggling to complete a <u>task</u>	Group struggling to complete a <u>task</u>	Organisation struggling to complete a <u>task</u>
99. Failure	Individual not being able to complete a <u>task</u>	Group not being able to complete a <u>task</u>	Organisation not being able to complete a <u>task</u>
100. Condition	The state of an individual	The state of a group	The state of an organization
101. Action	An Individual performing a <u>task</u>	A group performing a <u>task</u>	An organisation performing a <u>task</u>

Table 3.1 The Social Ontology

3.2. Foundation of the BOKMISO Framework

The framework in this research is examined through in-depth literature review. In this chapter, the theoretical framework is synthesised using various existing concepts, ideas and frameworks within the knowledge management domain focusing on the management of business organisation knowledge. The research question is examined through the help of different aspects studied by authors. It includes the organisational performance based on KM. The discussion is also made on social issues that are influencing KM in telecommunication industry of Saudi Arabia. Moreover, the theories, which are applied, on KM will explain the various aspects of business and organisation KM. The theoretical perspectives includes KM Theory and Framework related to Organisational Structure (Jarrar, 2002; Suppiah and Sandhu, 2010); Organisational Culture (Salisbury, 2003); KM strategies (Salisbury, 2003); KM Tools and Mechanism (Zeid, 2002; Bandura, 1986; Yue and Gable, 2005; Rai, 2011); Innovation Management Models and Organising Frameworks (Adams et al., 2006) STEPS model; (Chinowsky and Corrillo, 2008) ; Corresponding IT Support for KM (Wang et al, 2010).

These theories are beneficial in giving in-depth view of KM. It provides details about reaction of organisation towards KM strategies. This research will give a valuable insight regarding cognitive affects. It will explain those factors, which will influence KM. It provides those barriers, which creates an impact on organisational performance. This framework will develop a comprehensive picture of organisational behaviour towards the adoption of KM.

3.3. Theories Applied on the BOKMISO Framework

3.3.1. Organisational Structure

The structure of organisation helps management in organizing departments and other operation for better performances. The organisational structure is formal or informal based on the nature of business. The KM is directly linked with organisational structure because the flow of knowledge inside the organisation is depending on its structure.

The formal structure of organisation is official and more hierarchical. Therefore, to ensure KM the organisations needs to be flexible because the managers can easily understand dynamics of knowledge and recognise changes through flexible structure. In formal structure, departments are usually separated from one another, which affect on flow of knowledge. Therefore, the decentralized structure is more efficient for KM because it allows organisations to flow the knowledge among each department. While, the informal structures are unofficial in which people can easily interact and share knowledge. In informal structure, KM plays important role due to hold of knowledge, implementations, changes and common goals.

Underpinning this research is the assumption that organisational structure has to be aligned with knowledge strategy to foster success. Adams et al. (2006) confirm the link between KM, organisational strategy and innovation for organisational success. A variety of innovation management models and organising frameworks are discussed in their article (see Table 3.1).

	Cooper and Kleinschmidt (1995)	Chiesa et al. (1996)	Connican and O'Sullivan (2004)	Goffin and Pfeiffer (1999)	Burgelman et al. (2004)	Verhaeghe and Kfir (2002)
Inputs				Creativity and human resources	Resource availability	Idea generation
Knowledge management		Resource provision			Understand relevant technological developments and competitor strategies	Technology acquisition
Strategy	NPD strategy		Strategy and leadership	Innovation strategy	Strategic management	Networking
Organization and culture	Organizational culture	Leadership	Culture and climate		Structural and cultural context of the organization	
Portfolio management	Management commitment	Systems and tools	Planning and selection	Portfolio management		Development
Project management	NPD process		Communication and collaboration	Project management		
Commercialization			Structure and performance			Commercialization

Table 3.2 Innovation Management Models and Organising Frameworks (Adams et al., 2006, p. 25)

Different elements of organisational structure impact on the success of KM. Relevant for this research these elements are level of formalisation, reward systems and work load organisation. O'Dell and Grayson (1998) state organisational structure should be designed flexibly to encourage sharing and collaboration across boundaries within the organisation and the supply chain. A combination of a formal and a non-hierarchical, self organising organisational structure improves knowledge creation and sharing capabilities (Nonaka & Takeuchi, 1995). The authors make a case for the importance of successfully managing tacit and explicit knowledge.

As argued before, in a study about the KM of high tech research companies, Parikh (2001) found that, in order for KM to be successful it has to be incorporated into all business processes and become part of corporate culture. Parikh (2001, p. 29) argues that KM "is a process, not or tool or a technology". KM is often linked to the related concept of quality management and Steward and Waddell (2008) confirm the importance of formalised structures to improve and meet quality standards. Therefore, the authors argue knowledge acquisition processes have to be part of quality systems, but in turn, knowledge dissemination should also be subjected to quality culture.

In terms of the second factor, Leonard (1995) argues organisational reward systems can determine access and flow of knowledge in organisations. Nonetheless, this appears to apply more to the rewards people are getting for applying knowledge and organisational learning. This is related to Adamson (2005) who makes a link between KM, organisational learning and total quality management (TQM). Adamson (2005) argues that one of the key components in KM is to manage relationships effectively. Along with Parikh (2001), as well as Nonaka and Takeuchi (1995), Adamson (2005) points towards the importance of embedding KM in organisational structure. One part of this is to reward employees for applying knowledge.

Workflow is the third factor in organisational structure relevant for this research. It ensures the right tasks are executed at the right time by the right people using the right tools. Knowledge management improves the organisation's knowledge infrastructure and makes the right knowledge in the right form at the right time available to the right people (Lai & Fan, 2002). Kosturiak (2010, p. 51) argues that contemporary companies frequently concentrate "on the development of their operational ability. They have created lean, flexible and standardised processes for serving the customer". Yet, he argues these efficient processes are sometimes lacking in flexibility. Nonetheless, flexible processes are necessary for companies

to innovate. Evaluating the importance of adopting a KM view of electronic commerce, Holsapple and Singh (2000) argue that successful KM needs integrated structures. Picking this up Allard and Holsapple (2002) argue that companies should incorporate a nine step KM value chain into their organisational structure. Thomas and Keithley (2002) argue that KM needs formal processes and assigned responsibilities to be effective. This ensures that the collective information is meaningful, useful and up to date.

The importance of organisational structure, as well as culture, has been increased by the recent number of business partnerships between firms. These partnership as well as acquisitions blur the corporate boundaries and as Gabberty and Thomas (2007, p. 105) report, “corporate strategists are grappling with identifying and locating sources of plausible sustainable competitive advantage”. The firms’ ability to achieve this rests to a large extent on “the information and communication systems deployed to govern the management of well defined and highly organised information flow and idea creation throughout the firm” (Gabberty & Thomas, 2007, p. 106). Hassell (2007, p. 193) in a rather philosophical piece of work on knowledge and the usefulness of KM, concludes that it is assumed that there is a world of lived experience and he refers to it as *Lebenswelt*. This, in turn, seems to confirm this research’s stance that a social ontology of KM is useful in understanding and applying KM to telecommunication companies in Saudi Arabia.

The KM framework is based on priorities and strategies made by management to ensure effective organizational performance. It helps organizational in improving their strengths and overcoming with weakness. The KM frameworks contains following characteristics:

- Aligning all the practices and goals with business organizational strategy
- Defining formally all roles and knowledge in industry regarding the business
- Analyze all the competitors and their strategies to give them strong competition in market
- Assessment of organizational performance and development
- Creating the business and organizational value among stakeholders
- Enhancing the culture of organizational through adopting innovative and technical human resource
- Support and encouragement of senior management to employees (Jarrar, 2002).

Therefore, according to Albert and Bradley (1997) as cited by Jarrar (2002) knowledge management is defined as “information which is combined with experiences and skills”. It is

a powerful tool to improve organizational decision making by saving the time and improving the intellectual skills of management. It encourages employees to share the ideas among other members and engage in work through knowledge sharing. In this way, every individual in organization understand the value of working together by helping each other and operating for one purpose (Jarrar, 2002).

The internal knowledge sharing includes material related to marketing, research, training, information, sales and other areas. The learning process of organisation employee is based on knowledge sharing and innovation. The technological solution helps in developing various systems to recognize dynamic environment. The explicit knowledge is based on clear knowledge and languages, which can easily be, understand by anyone inside the organisation. It is based on diagrams and numbers, which are further converted in to tactic (Jarrar, 2002).

The KM strategies impact on organizational structure and it helps organization in redesigning their structure. The organization may redesign their structure into more flexible way. This will encourage employees and managers will collaborate with lower staff in order to maintain the two-way communication. The knowledge sharing is successful when each member of organization understanding their roles and responsibilities. Thus, the informal and formal organization structure may result in improving knowledge sharing. The corporate culture is based on professionalism and skilled management. It also improves the standard of organization and helps in business expansion. The structure of organization needs to be formalized because when employees are treated in professional way then they gain knowledge and understand the corporate world. KM helps in sharing knowledge in formal way, through which creativity and human resource is enhanced. Moreover, the management also understands the relevant technologies and strategies, which helps in gaining competitive advantage. The workflow of KM helps in continuous working process. Thus, when any problem arises inside the organization it is resolved immediately. The proper analysis of organization internal problem reduces the risk factor and ambiguity factor. The rewards given to employee help in encouraging them on accomplishment of tasks. In this way, rewards and benefits motivate the employees towards work. Moreover, employees also get loyal towards organization when they feel that knowledge is shared with them and they are getting opportunity to learn new things (Jarrar, 2002).

3.3.2. Organisational Culture

Culture of organisation is based on practices within the organisation, which helps in maintaining internal harmony. The organisational culture helps in attaining organisational goals and objectives. The culture helps in directing the behaviour of individuals and interacting with other employees. The culture of any organisation helps in improving HRM policies and sharing knowledge among other members. The knowledge sharing helps organisation in innovating new ideas and technologies. Thus, employee and management work together and share information regarding organisational purpose. The effective knowledge management helps in motivating the employees at every step. In this way, when the employees are encourage and empowered then they work efficiently. Therefore, KM helps organisations in enhancing their culture through knowledge sharing. Moreover, employees also experience the changes in organisational culture and apply KM techniques to gain success.

Considerable literature has been accumulated on the importance of innovation for competitiveness. However, utilising knowledge effectively to ensure innovation, presents a problem for many organisations. Adams et al (2008) point towards the importance of organisational culture, organisational structure and effective knowledge management to ensure a company successfully innovates. Fong and Kwok (2009) confirm this and argue that technology alone is not sufficient to guarantee knowledge sharing. In order to motivate employees to develop, share and apply knowledge, an appropriate organisational culture is necessary. Chinowsky and Corrillo (2008) make the link between successful KM and learning organisations and identify organisational culture as necessary for both. Based on the STEPS model, they argue that KM forms a link between organisational strategy and the development of a learning organisation (see Picture 3.2)

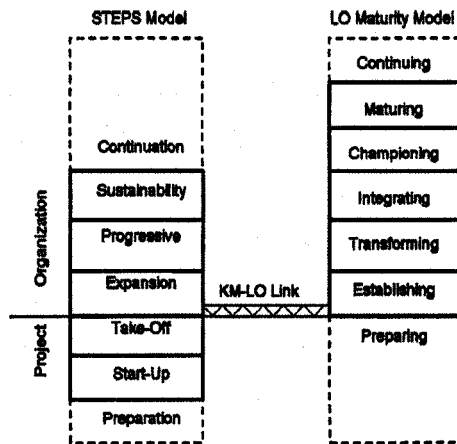


Figure 3.2: STEPS Model and LO Maturity Model

Evaluating the importance of KM for Law firms, Russanow (2007) confirms that organisational culture is important for effective KM. HR Focus (2007) even report that organisational culture and knowledge sharing can be the factor determining a company's success or failure. Nonetheless, despite the evidence for the importance of organisational culture for KM, King (2006) argues that for at least some organisations, traditional 'hard' management techniques might be more efficient than soft, learning and sharing oriented approaches to organisational culture.

The link between KM and OL is based on six major factors that defines and constitutes KM in the organisation. These factors include (Pun and Nathai-Balkissoon, 2011):

- The culture of the management needs to relate with the knowledge purpose;
- The level and methods through which knowledge is shared and created within the organisation;
- Benefits available to the organisation through KM;
- The current status of KM within the organisation;
- Methods that are particularly adopted to implement KM;
- Level of applying IT within KM system.

The link between OL and KM is based on hierarchical relationship formed between knowledge, wisdom, data and information. Hence, according to the approaches of Holtshouse (1999), ten approaches are essential to form the leadership of KM. These approaches include (Pun and Nathai-Balkissoon, 2011):

- Inculcating responsibilities regarding knowledge sharing;
- Sharing best practices and effective knowledge;
- Reprocessing past information by retrieving it in order to gain useful information;
- Embedding effective knowledge based capabilities in processes, products and services;
- Delivering knowledge as a product;
- Leveraging the level of intellectual assets;
- Measuring, evaluating and understanding the knowledge value;
- Knowledge mapping;
- Knowledge building for innovation;
- Capturing customer knowledge through KM.

However, OL is based on the level at which individual show his/her interest in learning. It is also based on the level of education and experience that a person seeks throughout their developmental phase. Hence, organisations strongly support and encourage OL through creating a focus on collective learning. This means that continuous learning often leads to the appearance of new information that adds value to the learning. It enhances the organisational growth and performances by generating good results. Moreover, employees also take interest in organisational development (Pun and Nathai-Balkissoon, 2011).

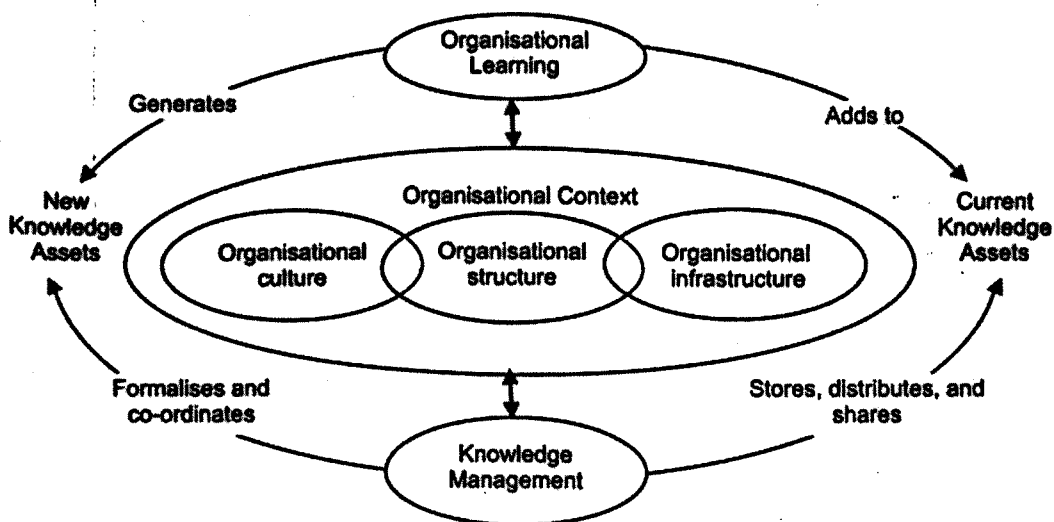


Figure 3.3: KM/OL Model (Pun and Nathai-Balkissoon, 2011)

This model further elaborates the STEPS model and LO Maturity model. It creates more strong link between KM and LO within the organisational context. Moreover, this model

clearly expresses the variables that are studied in this research. It discusses that KM/OL intervenes with the organisational context. The organisational context completely covers the culture of the organisation, its structure and the infrastructure development. However, this all works together as a process in which the new knowledge and current knowledge combine together to form a link and to deliver something useful for the organisation. The process in the above figure defines that KM/OL adds to current knowledge of the organisation by sharing and distribution of knowledge. On the other hand, KM/OL helps in formulating and generating new knowledge. This all together helps in creating an influence over the organisational culture, structure and infrastructure (Pun and Nathai-Balkissoon, 2011).

In this research, the variables designed were organisational structure, organisation culture, KM tools/mechanisms and KM strategies, all of these variables are applicable in the cultural context. The organisational development and learning is only successful when there is an intervention of knowledge within the system of the organisation. The STEPS and LO model both coincides with KM/OL model because these models combines in order to maintain the sustainability and progressiveness of the organisation (Pun and Nathai-Balkissoon, 2011).

3.3.3. Knowledge Management Information Systems Strategies, Techniques, Mechanisms and Workflow

The KM strategies help businesses in creating their value in market. The aim of KM is to increase the productivity and save money and time. It helps in building good relationship among colleagues through sharing and receiving knowledge. The organisation identifies best practices and implement on those practises. The KM includes the workflow, which starts from following steps:

- Analysing the unsolved problem
- Accessing KM system
- Developing best solution
- Implementing on solution
- Evaluating the result
- Updating the system

These following steps include explicit, implicit and tactic knowledge, which helps in decision-making and knowledge acquisition. The strategies of KM establish a system through

which the knowledge is transfer inside the organisation through database. It also helps in utilising IT capabilities and operates through various IT systems. The strategies are design by the help of special and professional team.

The KM tools and mechanism helps organisation in improving their quality through knowledge sharing and acquisition. Knowledge sharing is critical and intellectual asset of organisation to increase their growth. Thus, for this purpose employees needs to be professional towards work. The positive knowledge sharing reduce turnover rate and makes employee loyal towards work. The KM mechanism is based on creation and development through recruiting best employees. The job training also provides valuable knowledge to employees. The top talented employees are recognised through monitoring process and exposure. KM tools and mechanism also includes reward system for employees, which enhance employee performance.

Although KM is at its most effective when embedded in organisational culture, information systems or the technological side of KM is an important element of organisational success. For example, Kems and Sabberwal (2007) argue that in senior managements, Information Systems knowledge significantly influenced the success of KM systems. Nevertheless, Choi et al (2010) find that companies can increase employees' meta-knowledge by investing in suitable KM systems. This confirms Liu and Tsai (2007) who report that information systems aiding KM increase performance of the studied companies by 10 to 15 per cent on all levels. Overall, there appear to be a link between senior management's attitude towards and the level of investment in KM systems and technology. This is confirmed by Small and Sage (2005) who also point towards the importance of effective information systems. Nonetheless, the authors also argue that information systems have to be compatible with organisational culture and structure. Zhang et al. (2009) evaluate the components of intelligent KM and argue that effective information systems are of vital importance. They develop a framework explaining how information systems transform rough knowledge into intelligent knowledge.

In a review of KM in a global software organisation, Thompson and Walsham (2004) conclude that the organisational context is inseparable from effective KM. They find that effective information systems help employees to make connections between organisational and personal knowledge and increase the value companies can derive from KM. Wang et al. (2010) determine the elements of successful KM with the respective necessary IT support (table 3.2).

KM Strategies	Tools, Mechanisms and Workflows for KM
Knowledge use	E-meeting, DSS, collaboration suits, email, small message broadcast software
Knowledge search	Brower, data warehouses, database index systems
Knowledge creation	Artificial intelligence
Knowledge packaging	Document management systems

Table 3.3 Key KM Activities and Corresponding IT Support for KM (Adapted from Wang et al., 2010, p. 2422)

Alazmi and Zairi (2003) argue that effective information systems are one of the critical success factors for companies and agree with Adamson (2005) that it can be used as a measurement tool for quality. Gabberty and Thomas (2007) conclude that KM in general and effective information systems in particular, is necessary for corporations to expand. They argue that the increasing number of business partnerships requires companies to identify factors hindering expansion and competitive advantage. “Once detected and analyzed, these constraining factors can be used to spur discussion, followed by subsequent development and implementation of information and communication technology (ICT) projects designed specifically to improve information and knowledge dispersion throughout the enterprise” (Gabberty & Thomas, 2007, p. 105). Analysing KM for electronic commerce, Holsapple and Singh (2000) argue that technologies for knowledge management enables and facilitates the implementation of value activities. Moreover, effective information systems support the decision making process underpinning these activities and consequently enhance performance and outcomes.

The information system helps in organizational success. In information system, KM helps in working effectively through various databases. The organization may increase their employee’s intellectual knowledge by adopting different KM system. The management system provides all the detail regarding management tools. It helps in accessing conceptual knowledge for long-term strategies and growth. The procedural knowledge gives systematic

information for specific implementation. The KM activities helps organizations in maintaining information technology through following things [1] emailing [2] Decision making [3] Collaborating [4] E-meeting and broadcasting. The knowledge search helps in browsing data from index and warehouses. The knowledge creation helps in innovating software that is beneficial for organizational present and future operations. The knowledge packaging helps in maintaining overall management system. The mentoring employees through KM help in face-to-face discussion and training. Moreover, the information system effectively measures all the activities of organization and manages the quality. The workflow ensures that difficult task is accomplished according to the need. The workflow process includes [1] analyzing the process [2] designing the process [3] developing the process. Therefore, the development of KM strategy determine in transferring the knowledge and achieving business goals (Salisbury, 2003).

3.3.4. Action Research Case study in the Saudi Telecommunications Industrial Sector to evaluate the BOKMISOf

Saudi Arabia is the largest country in the Gulf region and, relevant for this study, has the highest spending levels in the telecommunication market. Moreover, despite declines in oil prices, Gulf region Monitor (2010) regards the real estate and telecommunication sector in Saudi Arabia as promising. Although, industry in Saudi Arabia is still predominantly focused on oil related sectors and service industries only constitute a small part of the Saudi economy, telecommunication is amongst the fastest growing economic sectors (Datamonitor, 2010). The main telecommunication operators competing in the Saudi telecommunication market are Etisalat, Zain, and Mobily. These will provide the sample population for the present research. Nevertheless, according to Frost and Sullivan (2009), the total telecom spending in the Saudi market was \$6,576 million in 2008, but is expected to decline with a negative compound annual growth rate (CAGR) of approximately 1.59 per cent between 2008 and 2015 to \$5,875 million. Broadband penetration is also one of the lowest in the region. Additionally to this a recent decision by the Saudi Arabian telecommunication regulator CITC has banned the use of Blackberry Messenger and internet services in the Kingdom (Economist Intelligence Unit, 2010). Nevertheless, mobile technology forms an important part of the Saudi economic strategy. Frost and Sullivan (2009) observe that there will be a increase in the adoption of 3G and broadband networks.

Yet, despite this focus on mobile and wireless technology, Market Watch (2008) reports that the Saudi telecommunication market is defined by severe competition and the wireless technology market is close to saturation. This indicates that the Saudi telecommunication sector is increasingly important for the Kingdom's overall economy, but the effective KM solutions are important for telecommunication companies to secure their competitive advantage. Consequently, the need to train and enable employees to operate within this increasingly knowledge based and competitive environment requires the effective application for KM. Moreover, in a market where more than one company competes for customers, gaining information into customer preference to improve customer service is important for the competitive advantage of a company.

The reason to choose Saudi Arabia for this research is that it is one of the largest countries, which is growing the telecommunication industry more rapidly. The technologies and innovation adopted by business are helping them in expanding their market inside the country as well as internationally. The business expansion and growth is increasing the Saudi Arabia economy. The KM tools and strategies adopted by telecommunication industries in Saudi Arabia are making their business profitable and effective. It is ensuring that employees are working together towards common goal and sharing knowledge. In this way, telecommunication industries are also improving customer's services by providing them excellent services. Therefore, KM is developing comprehensive system through which organizations are enhancing their performance and expanding their business. The continuous growth is improving the GDP of country.

3.4. Hypotheses of the Research

The hypothesis of any research helps in investigating any problem/issue in detail. It helps in forming the link between each factor/variable that affects the dependent variable, and then give understanding based on social acceptance and needs. In this research, the focus was towards the understanding of KM in an organisation based on its structure, culture, performances and working processes. Hence, based on the culture and structure of the organisation, KM strategies are designed that helps in studying KM in the organisation. At present understanding KM is beyond the working process of the organisation. It is suggested that organisations must make KM a vital part of their strategy and operations. Effective KM also involves understanding social acceptance and cognitive behaviour of an employee within the organisation that sets the premise of their learning and adaptability. The effectiveness of the organisation is based on the level at which the employees are able to learn and accept

innovation, communication, coordination and effective social belongingness. It is proposed in this research that an integrated social ontology will enhance the effective understanding and use of the KM components of an organisation. As a result of developing the BOKMISO a set of hypotheses were proposed which was validated with case studies in the Saudi Telecommunications companies. Several hypotheses were created and these are presented in Table 3.4. Each hypothesis helped in preparing the questionnaire and semi-structured interview that was collected from Telecommunication Industry in Saudi Arabia and Gulf State. These hypotheses suggest that there is a relationship of the variables in the BOKMISO with the KM of the organisation. However, the testing of each hypothesis will help in knowing that level of acceptance and rejection. The rejected hypothesis will then become the null hypothesis. Following are the hypotheses of the research:

RESEARCH HYPOTHESES

H ₁	There will be a positive relationship between organisational culture and KM of the organisation.
H _{1a}	As part of organisational culture, there will be a positive relationship between formal and informal ways and KM of the organisation.
H _{1b}	As part of organisational culture, there will be a positive relationship between control and KM of the organisation.
H _{1c}	As part of organisational culture, there will be a positive relationship between authority and KM of the organisation.
H _{1d}	As part of organisational culture, there will be a positive relationship between open culture and KM of the organisation.
H _{1e}	As part of organisational culture, there will be a positive relationship between information sharing and KM of the organisation.
H ₂	There will be a positive relationship between organisational structure and KM of the organisation.
H _{2a}	As part of organisational structure, there will be a positive relationship between workflow and KM of the organisation.
H _{2b}	As part of organisational structure, there will be a positive relationship between tacit knowledge and KM of the organisation.
H _{2c}	As part of organisational structure, there will be a positive relationship between explicit knowledge and KM of the organisation.
H ₃	There will be a positive relationship between KM strategies and KM of the organisation.

H _{3a}	As part of KM strategies, there will be a positive relationship between codification and KM of the organisation.
H _{3b}	As part of KM strategies, there will be a positive relationship between KM process and mechanisms and KM of the organisation.
H _{3c}	As part of KM strategies, there will be a positive relationship between explicit knowledge and KM of the organisation.
H _{3d}	As part of KM strategies, there will be a positive relationship between knowledge sharing (KS) and KM of the organisation.
H _{3e}	As part of KM strategies, there will be a positive relationship between information technology (IT) and KM of the organisation.
H _{3f}	As part of KM strategies, there will be a positive relationship between mentoring and KM of the organisation.
H ₄	There will be a positive relationship between KM tools and mechanisms and KM of the organisation.
H _{4a}	As part of KM tools and mechanisms, there is a positive relationship between quality management and KM of the organisation.
H _{4b}	As part of KM tools and mechanisms, there is a positive relationship between organisational improvement and KM of the organisation.

Table 3.4: Research Hypotheses Designed to Study Telecommunication Industry of Saudi Arabia and the Gulf States

3.4.1. Organisational Culture Variables

Based on the hypothesis, there is certain alteration done in the framework, which is given below:

H₁: There will be a positive relationship between organisational culture and KM of the organisation.

This defines the relationship between the culture that is specifically followed in the organisation and its link to the KM. The culture of any organisation based is on various factors that can define the effectiveness of KM. It includes the degree of formality and informality within the organisation that expresses the openness and closeness of the organisational culture. It also defines the level of control and authority given to the employees of the organisation that can help them to enhance their decision-making abilities. Information sharing also helps employees to perform effectively and to generate better

results. The culture of the organisation helps in defining the functioning of the organisation and the level of commitment employee's show towards the organisational performance.

H₂: There will be a positive relationship between organisational structure and KM of the organisation.

The structure of the organisation works as the format that helps employees to align their goals with the goals and aims of the organisation. It involves the workflow, tacit and explicit knowledge of the organisation. The flow of any work defines the communication and coordination among the employees and managers. The strong flow of information enables the timely achievement of targets. Tacit knowledge helps employees to develop effective skills within them based on their personal characteristics and improving the level of working by creating proper coordination and enabling effective communication. However, explicit knowledge helps employees to develop their skills based on written and verbal means. In explicit knowledge, employee can gather information through reports, projects, policies, procedures and guidelines. This helps them to understand the documentation importance within the organisation.

H₃: There will be a positive relationship between KM strategies and KM of the organisation.

KM strategies involve the processes and mechanisms involve in the implementation of KM in the organisation. It includes the codification of knowledge, knowledge sharing, information technology and mentoring. It also includes explicit and tacit knowledge, which is studied and viewed from the perspective of KM strategies. IT is one of the important strategies of KM. It describes the advancement that takes places within the organisation based on information and sharing of knowledge.

H₄: There will be a positive relationship between KM tools and mechanisms and KM of the organisation.

This hypothesis defines the link between KM tools and mechanisms with KM of the organisation. It describes the initiatives that an organisation takes by improving the quality. It also focuses on organisation improvements that can be made by giving a hold to employees to some extent in order to develop decision-making skills within them. For the development of employees, it is also important to give time training that can improve their skills and leads to better results. Moreover, in KM tools/mechanisms the role of innovation, intellectual

rights, cost reduction and on-time response towards the issues helps in improving the overall results and create sustainable development within the organisation.

These hypotheses help in identifying the role of KM within the Telecommunication industry in Saudi Arabia and the Gulf states. Employees are particularly asked to share their views regarding their involvement within the organisation, and the freedom and restrictions they face while taking part in organisational activities. The hypotheses are directly linked with the research questions in a way that they explore relationship between individual and collective identities within organizations through investigation of relationship between organizational structure, culture and knowledge mechanism. Through exploring relationship between different variables including culture, structure, quality management and knowledge management tools with the dependent variable knowledge management, the research questions could be answered well. It is good here to present the research questions again of the study so that the relationship between research questions and hypotheses of study could be made clear.

- 1.How do the issues of individual and collective identities within organisations affect KM in organisations?
- 2.How do social issues within organisations impact on KM in Saudi telecommunication organisations?
- 3.How is KM reflected in the organisational context, structure and culture of Saudi telecommunication organisations?
4. What are the specific social, and business organisational issues preventing the effective application of KM system in these areas?

The study of organizational culture and structure will include views of employees on how their individual and collective actions as well as norms are in line with the knowledge management system of the organization. These questions shall be addressed by analysis of organizational culture as the social issues constitute an important part of organizational culture. Therefore study of the elements of organizational culture will help to establish link of social aspects of organization with the knowledge management.

3.5. Conclusion

The chapter presents the BOKMISOf in detail together with the detailed Social Ontology with the emphasis on improving acceptance and effective application of Knowledge Management within organisations. The BOKMISOf was developed with a combination of theoretical and practical research. The integration of organisational culture and structures with KM activities improve the internal knowledge sharing.

It gives a comprehensive understanding of the proposed hypotheses that were designed for the research. This chapter specifically contributes as the major source of understanding for the research because the chapter of analysis, discussion, results and conclusion are based on it.

For this research, four major hypotheses were created, but in order to support these four hypotheses, other sub-hypotheses are created that supports the statements of the questionnaire. Five sub-hypotheses are created for organisational culture, three sub-hypotheses are created for organisational structure, six sub-hypotheses are created for KM strategies and two sub-hypotheses are created for KM tools and mechanisms.

Chapter 4 takes a step back and explains in detail the research methodology used to develop the BOKMISOf, the development of the Hypotheses and the validation BOKMISOf and testing of the Hypotheses with questionnaire based case study.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.1. Introduction

The research methodology chapter is designed to give wide knowledge about the methods and techniques used to conduct the overall research. In this chapter the research designs, methods, philosophy, techniques, strategy, data collection tools and data validity is discussed. The research approach included Action Research to develop BOKMISO theoretically from the synthesis of existing knowledge management, business organisational research and social ontological research, and practically by evaluating this within the Telecommunication Industry in Saudi Arab and Gulf states.

The data is collected with the help of both qualitative and quantitative methods. The participants were asked with self-administrative questions and semi-administrative questions. This type of questionnaire helps researcher in exploring the views of other participants and get the insight knowledge regarding the research questions and hypothesis (Supino and Borer, 2012). Moreover, the inductive method and deductive method is also used for this research.

The applied research methodology helps in finding a solution to specific problem facing by businesses or industries. In this way, the applied research can provide a solution to any specific problem through which, companies and organisations can overcome with those problems. The fundamental research methodology based on general knowledge. The research is conducted to provide readers about certain topic and its impact on organisation. It is consist of human behaviour, economic, social and political aspects. In research methodology the conceptual framework helps researcher in providing an abstract about data gathering and collecting. It helps in exploring the research topic by preparing questionnaire and conducting interviews. In this way, the concepts of other individuals are gathers and studied. The research methodology chapter also focuses on empirical methods. The researcher observes the environment based on the research variables. This type of data is usually known as first hand data and it is based on data (Kothari, 2008).

4.2. Research Philosophy

Every research, which is undertaken, shows a glimpse of researcher's beliefs and experiences towards particular phenomena. The way a researchers views the environment paves the way for which research methodologies, strategies or design will be used to perform the entire procedure. Therefore, it indicates that research philosophy indicates researcher's experiences

and dogmas (Saunders *et al*, 2007). It is required by every researcher's to have insight of various philosophical perspectives to justify "what", "how" and "why" particular research applied considerations.

Three reasons why it is important have a better understanding of philosophical viewpoints is researched by Easterby-Smith *et al* (2002). Firstly it can be helpful to better understand the research design model and list down what sort of evidence is required and to gather and infer it. Secondly, it can help to comprehend the best approach of research design. It prevents wasting time on using alternate strategies and identifies particular limitations of any research. Thirdly, knowledge of philosophy can guide researchers as per the limitations of diverse subjects and structures.

Epistemology, Ontology and axiology are three main methods of thinking about research philosophy, which will affect the way researchers think about research process (Saunders *et al*, 2007).

Epistemology defined as "a common set of assumptions about the best ways of probing into the nature of the world" (Easterby-Smith *et al*, 2002). The important epistemological question is "Can the method of studying the social world be same as the method of studying natural sciences?" (Saunders *et al*, 2007). Ontology is defined as "expectations that we assume about the nature of reality" (Easterby-Smith *et al*, 2002). It is concerned with the social phenomena that may be described subjectively or objectively.

Research philosophy and its concept have been debated from various angles. Social sciences paradigm (Babbie, 2004) is defined as "a framework for observation and accepting, which shapes what we see and how we apprehend it". Research paradigms reasoned implying social Darwinism, conflict paradigm, symbolic interactionism and feminist paradigms (Babbie, 2004). Similarly, four other research paradigms were identified by Burrell and Morgan (1979) Radical humanist, radical structuralist, functionalist and interpretive based on subjective-objective idea and regulation-radical change. These research paradigms effect the way research is conducted and impact research philosophy as well.

From a different perspective, Guba and Lincoln (1994) define paradigm as "world view or general system that guides the investigation is done". This suggests the way research should be conducted identifying relationship among variables. Another definition by Chalmers (1982) is that paradigm is "made up of general laws and assumptions and techniques for their

implementation adopted by a specific scientific community” having five constitutes as standard ways of applying basic laws to different situations, theoretical assumptions, instrumental techniques, general metaphysical principles and methodological prescriptions on how to conduct work within the paradigm.

The purpose of this study is to highlight existence of various paradigms and more specifically this research emphasises on main philosophies that are commonly used and referred in literature. There are three important paradigms considered as dominant guiding frameworks used in social sciences today which are post positivism, interpretivism and critical theory (Greene *et al*, 2001; Guba and Lincoln, 1994; Cupchik, 2001). If we start with post positivism it is a traditional approach to research which is based on positive philosophy which proposes that world exists externally therefore its possess should be measured using objective ways rather than subjective as reflection, sensation and intuition. Its epistemological idea is that knowledge is important as long as it is based on observation of external reality and in ontological point of view reality is objective and external (Easterby-Smith *et al*, 2002).

The main crux of positive philosophy has many suggestions for social sciences which are as follows (Comte, 1953) and (Bond 1993):

- Research should be based on quantitative laws and methods.
- The choice of what and how to study should be decided by objective means rather than human experience.
- Concepts to be used should be able to measure quantitatively.
- Reason behind research should be to identify basic laws and common explanations that govern human behavior.
- Researcher should be independent and objective.
- Issues under discussion should be simplified enough to be better understood.

Positive approach forms the foundation of natural science this has a rational effect on researchers of management system (Buttery and Buttery , 1991) .As per positive paradigm problem solving starts with generating hypotheses which are then empirically test through quantitative methods which provides value free and unbiased interpretation of reality (Guba and Lincoln, 1994).

Post-positivism opposite to traditions of positivism stresses that reality of a researcher is not a seized object (Jackson, 2007). Reality does not exist within vacuity while its composition is affected by many constructions of reality (Hughes, 1994). Constraints that affect reality include culture, cultural beliefs, gender and many other which help distinguish the relationship between human behavior, attitudes, external structures and socio cultural problems (Proctor, 1998). Therefore researchers came up with the idea of post positivism to overcome disadvantages of positivism (Guba and Lincoln, 1994). In other words it brings up the importance of various factors of measures and observation each of which is likely to pose different kind of errors (Easton, 1998). As a result triangulation needs to be used across these flawed resources to get better picture of reality (Trochim, 2003).

Triangulation can be explained as "the process of studying the richness and intricacy of general human behavior by examining it from more than one viewpoint" (Cohen and Manion, 1986, p. 254). It gives a more detailed and better picture of human behaviour as explained by Altrichter et al (1996). According to O'Donoghue and Punch (2003) it is process of obtaining and verifying the data from various resources. Four basic types of Triangulation as identified by Denzin (1978) are as follows:

- Data triangulation
- Theory triangulation
- Investigator triangulation
- Methodological triangulation

In post paradigm method researchers tend to emphasis on inferential logic in which research influenced by hypothesis is reflected in formal writing style (Onwuegbuzie, 2002).

Interpretive is an epistemology that has taken a stance that it is important for a researcher to figure out difference between human as social actors when conducting research on people rather than tangible objects such a computers (Saunders *et al*, 2007). This research opposes the idea that same methods can be used to human behaviour and topics of sciences as physics or chemistry. There should always be difference of methods when conducting research in fields of social sciences or natural sciences (Bryman and Bell, 2007). Interpretive approach which is based on two intellectual ideas as phenomenology and symbolic interactions phenomenology discusses the way in which human beings make sense of world around them. As for the latter one human beings are in continuous process of interpreting the processes

around them, interpretation of acts of others and giving meaning to each interaction (Saunders *et al*, 2007).

Reason why interpretive prefer qualitative methods such as interviews, case studies and observations is that these methods are better ways of getting information about how humans interpret the world around them (Jackson, 2007). However it is important to interpretive approach that researcher should adopt imagined attire in order to better understand the social word and people in it from different standpoints (Saunders *et al*, 2007).

Critical theory explains that a reality generated over time by political, social, culture, ethnic and economics means aims at transforming and critiquing the social, political, economic and cultural structures that destroy humanity by inclusion in confrontation (Guba and Lincoln, 1994). The person conducting the research and objects under research are associated in certain way that makes the respondents more informed (Perry *et al*, 1997).

The research philosophies discussed detail out difference between philosophies perspective. However there is no best approach among these or researcher should not think that one view point is better than the other. There is no good or bad standpoint when discussing philosophical views. Therefore, understanding of each viewpoint is important as it leads to conduct a research project more effectively which can result in more valid outcomes and results. Although difference among these philosophy is distinct at conceptual level but many researchers argue that distinction among these become blur when used at practical level (Easterby-Smith *et al*, 2002; Burrell & Morgan, 1979).

The research paradigm is based on the experiences and beliefs of researcher. The research philosophy is concerned with the development in a specific field. The researcher has studied various viewpoints of authors to provide a concrete framework for this research. The research paradigm helps researcher in justifying his/her views about how, what, why, when and provide criticism of other authors. The philosophical viewpoints of other authors help in adopting practices and knowledge regarding the philosophy.

According to Johnson and Christensen (2010) "*the paradigm is a structure which guides the researcher in investigation*". In order to make the research reliable the researcher needs to explore those facts, which are based on nature and reality. The paradigm helps research in identifying the relationship among variables and methods, which are suitable to gather the data. Johnson and Christensen (2010) presented three elements of paradigm, which includes:

- Ways through which laws can be applied in different situations
- Perception regarding how to accomplish the research
- Theoretical assumptions and unambiguously laws

Moreover, Chalmers (1982) defined paradigm as “*A theoretical concept of techniques, laws and assumptions which is adopted by specific community*”. In this research, the researcher is aware of various paradigm and knowledge, which are based on research philosophy. The research philosophy is referred to literature review because it is designed which provides experiences and beliefs of other authors.

4.3. Research Approach

Two main courses of reasoning are inductive and deductive approach. The inductive approach normally progress from definite interpretations to broader procedures and theories. This practice is commonly called bottom up approach (Trochim, 2006). According to this approach, researchers started with explicit observations and procedures, begin to discover patterns, prepare few provisional hypotheses and end up by mounting some simple conclusions (Trochim, 2006).

With this approach, researchers can make conclusions from pragmatic observations (Ghauri & Grønhaug, 2005, P. 15). This process moves from specific observations to the invention of a state based on all the given aspects (Babbie, 2004). A research, which is based on Inductive approach, is likely to have a study of minute sample of subjects than the outsized samples (Saunders et al, 2007, P. 119).

In comparison, a deductive approach moves from more broad to more precise; commonly called as top-down approach. Researchers begin with initiating a theory to the topic of interest and next, confine that into further hypotheses that can be experimented. During a research, deductive approach starts with a pattern, which can be proved theoretically, then observations that analyse the authentic occurrence of the estimated pattern. Specific prospects of hypotheses are organised with this logical model on the source of general principles (Babbie, 2004).

Both approaches are two different ways of conducting a research. Inductive is more open-ended and used to explore the unidentified phenomena. Contrary, deductive method is narrower and emphasise on the verification of hypotheses. Shortly, the disparity between both

approaches is firstly, constructing a theory (inductive) and secondly, testing the theory (deductive).

The choice of selecting the suitable approach depends on the available information and theories available related to given topic. Deductive approach is practiced when there is sufficient knowledge available. Research with nonexistent theories leads to inductive approach.

This research is concerned with social phenomena such as the impact of organisational culture on KM in organisation as well as tangible results such as evaluation of the effectiveness of information systems. Social relations and ways in which organisational culture and structure influence KM in an organisation from the basis of this research and it could be argued that findings are grounded in managers and employees perception of KM. Consequently, the appropriate research theory informing this study is grounded theory (Bryman & Bell, 2007). Both quantitative and qualitative research is conducted, necessitating a mixed method approach to research (Bryman & Bell, 2007). Moreover, findings from the literature and the primary research inform and determine the social ontological framework of this study. Thus, the study is inductive rather than deductive (Saunders, 2009). This is further an example of the grounded theory approach of the study. Despite the indication from the literature that KM is essential for a company's competitive advantage, but has to be embedded in organisational culture, the research does not aim to prove or disprove fixed hypotheses but tries to answer a number of research questions. Its conclusions are thus grounded in its findings.

Despite the emphasis on qualitative methods to explore social phenomena governing KM in organisations, the research adopts a mixed method approach to empirical research. Tangible elements of KM in the case study organisations are related to the effectiveness of existing KM systems. Nonetheless, the tangible elements of this research are limited to the number of formalised information exchanged and the storage of policies and explicit knowledge. The evaluation of effectiveness of KMS and KM processes is based on employee and manager perception and therefore qualitative in nature.

4.3.1. Inductive Research Approach

In this research, the inductive approach is used because the researcher can easily give the conclusion through observation and empirical practices. The inductive approach helps researcher in observing various events and discovering a simple pattern to present those

events. Moreover, the inductive approach is used to understand the particular events that are taking place rapidly. This approach is more suitable for small subjects rather than large. The inductive approach helps in exploring those factors and phenomena that are unexplored and open-ended. In inductive method the duplication and replication of data is impossible (Jones, 2004).



Figure 4.1: INDUCTIVE APPROACH (Jones, 2004)

The inductive approach is the modern method to conduct the research. The research structure is presented in comparative tools. It moves from specific research observation to border research generalisation. The inductive approach is also known as “bottom up” method. The method is logical and natural because it is based on the observations. It evaluates the common propositions (Jones, 2004).

4.3.2. Deductive Research Approach

The deductive approach gives general understanding about the research topic. The researcher can easily begin the research with a general topic then narrow down the research in specific theory. In this way, the research gets more clear and simple. Moreover, the narrow research method helps the researcher in answering the entire question through quantitative techniques and findings (Jones, 2004).



Figure 4.2: DEDUCTIVE APPROACH (Jones, 2004)

INDUCTIVE APPROACH	DEDUCTIVE APPROACH
Gives clear and close knowledge about research	It is directly moves from theory to facts
Based on observation and events	It is based on scientific principles
It is based on qualitative data	It is based on quantitative data
More flexible and can easily change according to the environment	It explains relationship with the research variables
It is least generalised	It collect samples to provide a generalised view about research topic
It make researcher realised that he/she is the part of research	It makes researcher independent
Research is not more focus towards structure	The researcher use highly structures approaches to make the research more reliable

Table 4.1: Difference Between inductive and deductive approaches (Jones, 2004)

The reason to choose inductive or deductive methods is based on the concepts and theories that are available regarding the research topic. The inductive approach will help those researchers who are not much clear about topic. While deductive approach will focus on theories, which are based on previous researches. In this research, the researcher will explore the KM technology, which is adopted by telecommunication industries. The region that is considered for this research is gulf state and Saudi Arabia. The reason to choose this destination is the KM activities adopted by various telecommunication companies (Jones, 2004). The Saudi Arabia telecommunication industry is growing their business by enhancing the organisational structure and culture.

4.4. Research Design

The research design helps researcher in directing the research topic towards right path. It is the logical sequence, which connects the practical hypothesis with data collection tools. The research designs are of various types. The researcher use appropriate design according to the nature of research. Moreover, in business research topics usually the researcher use explanatory design.

Research design defines logical sequence of reasoning to relate the research questions to the conclusion of the research topic (Yin, 1994). Fundamentally, a social research design method falls into three main categories; explanatory, expletory and descriptive (Saunders et al, 2007; Babbie, 2004). The three categories differ in their research goal, research method that is being followed, data collection techniques, and the way research hypothesis is built up. These three types are explained below;

4.4.1. Exploratory Research

Exploratory research approach is based on flexible understanding of marketing phenomena. In this approach, the researcher explores the unique problem or phenomena. Moreover, the researcher focus on issues, which are related to the variables, presented in research (Gratton & Jones, 2010). This method is normally used when researcher want to investigate new topics. The focus of using exploratory method is to discover new ideas. The exploratory research method provides the evidence of cause and effect relationship. Exploratory research consists of interviews, questionnaires, literature review, case studies and surveys. Moreover, this method also helps in clarifying theoretical concepts and formulating strategies for various problems. In order to conduct the future research the researcher can also establish priorities through the help of exploratory method.

This method is normally employed when the research method is comparatively new and the subject under investigation has not been studied previously (Babbie, 2004). Hence, it focuses more on studying new ideas and theories Churchill, 1999). It is used when the researcher has insufficient knowledge about the topic of the research to start with so the researcher needs to collect more information to provide better clarification and reasoning for the research hypothesis.

Following are the few purposes for which explanatory research method can be employed by a researcher (Churchill, 1999):

- Setting up priorities for any future research.
- Enhance the researcher's know how with the research problem under analysis.
- Develop problem for more detailed and thorough investigation to build a hypothesis
- Collect information about the problems that are faced by the researchers while studying conjectural statements.
- For better and profound clarification of various concepts

4.4.2. Descriptive Research

The descriptive research approach is based on statistical approach. It is also known as descriptive Statistical Approach. It is based on proper measurement and well-explained phenomena. The discussion is made in term of graphs and figures (Vaus, 2002). It is based on tangible approaches rather than intangible approaches. It is the second step of any problem. Once the researcher has explored the problem then he/she can measure it in term of statistics (Malhotra & Birks, 2007). In descriptive research approach, the researcher observes and then explains that what was observed. The problems can be defined in term of frequency, measurements, mean and mode. Moreover, the standard deviation can also be used to measure the phenomena. The tested hypothesis will clarify the relationship between variables (Gratton & Jones, 2010).

Descriptive research is usually carried out to describe situations and phenomena or description of variables of interest in research (Sekaran, 2000). Problem areas can be better described by measures of activity and this is often achieved by using statistics as measures of central tendency, frequency counts and measure of variation (Hair *et al* , 2003). Descriptive research can be done to achieve following purposes as (Churchill, 1999)

- To describe characteristics of people in certain group e.g : age, gender etc
- Estimate of replication of certain behavior
- To make specific prediction on basis of information gathered.

When characteristics within a specific situation can be recognised then this is the best design to be used as it offers more clear profile and linkage between different variables giving rise to cause and effect relationship (Sekaran, 2000).

4.4.3. Explanatory (causal) Research

The explanatory research approach is also known as “analytical research approach”. The explanatory research is based on the analysis of the given problem by focusing on previous literature and measurements. In this approach the cause and effect of various relationships are given. It explains the entire study in light of previous literature (Gratton & Jones, 2010). It is the third step of any research because first the problem is explored and measured, then the relationship among variables are discussed. This method also provides evidences regarding the topic. Moreover, in this method researcher conduct a casual study regarding variables X.

and Y. If X is removed then Y is solved. The explanatory approach is usually conducted through experiments (Malhotra & Birks, 2007).

This method of research can be used in order to explain relation among variables. It pays stress on determining cause and effect relationship, which is determined through experiments (Churchill, 1999).

Providing evidence of cause and effect relationship, it helps develop an exact theory that can explain any certain phenomenon and leads to inference of generalisations from investigation Aaker *et al*, 2001). It is normally conducted through laboratory experiments and as proposed by Hair *et al* (2003).

- Cause must occur before the act always-time sequence
- Change in both cause and effect are associated –covariance
- Relationship should not exist by other reasons apart from one under study-non-spurious association.
- A proper reasoning as to why relationship exists-theoretical support.

The figure (4.3) summarises the important features of the different design.

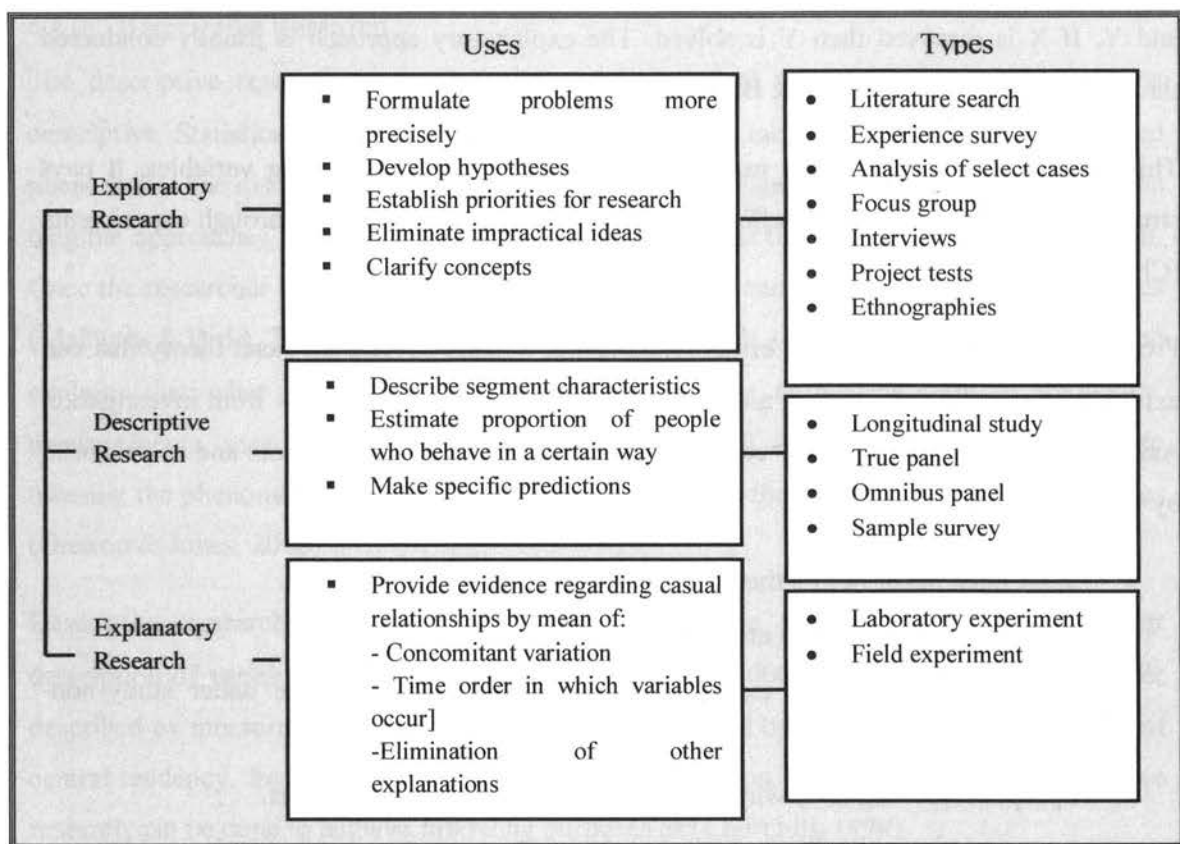


Figure 4.3 Overview of three Research Design (Churchill, 1999, p. 132; Churhill & Iacobucci, 2005, p. 76)

4.4.4. Interrelation of Research Design

In this research, the researcher has used both explanatory and exploratory research method. The reason to choose both methods is due to the nature of research and topic. The exploratory and explanatory methods help in studying the importance of KM for organisation. These methods aim to figure out the KM tools for telecommunication industry. The research was started with wide literature regarding Knowledge Management and telecommunication industry helped in narrowing the research (Gratton & Jones, 2010).

Even though there are distinct differences among exploratory, descriptive and explanatory designs, they have balancing approach in many research projects, which require more than once design to be used. For instance descriptive research is used to explain the features of certain group, exploratory research is more concerned with over all general picture and explanatory research strives to find the cause and effect relationship (Churchill, 1999).

Exploratory design takes the initial phase (Eriksson & Wiedersheim, 1997) and help develop hypotheses that further serve as guide for descriptive research projects (Churchill and Iacobucci, 2005).

4.5. Research Strategy

The rationale for the mixed method approach is as follows. The research is designed to explore, evaluate and assess the application of knowledge management in the Saudi telecommunication industry. Hence, it is concerned with complex social and behavioural variables and their relationship. In order to gain detailed insights into these variables, a qualitative approach is warranted. Social relations in organisations are complex and unique and require different methods to research into scientific observable facts (Saunders et al, 2000; Remenyi, et al, 1998). At the same time, it is meant to be of practical knowledge for the sample organisations. Therefore, a quantitative evaluation of existing KM systems appears to be warranted. A quantitative approach was required to collect the tangible data informing the research. This includes elements of organisational structure and information technology systems implementing KM. As apparent in the literature review, even explicit knowledge is based on subjective perceptions, therefore, the limitations of quantitative analysis for the research have to be mentioned. Whilst an analysis of the number and levels of formalised KM processes is valuable, this does not necessarily provide information about the usefulness of collected and applied data. Effective information systems, however, have been acknowledged as beneficial for companies. The strengths of this mixed method approach to empirical research is that it pays attention to both, the social and therefore qualitative and the tangible and therefore quantitative aspect of KM in the sample organisations. This in turn enhances the validity of results and provides a more comprehensive analysis of KM in the sample organisations.

In the field of research, there are two main methods, Qualitative and Quantitative. Each method is considerably dissimilar from the aspect of gathering and processing data. To differentiate between techniques for data collection and procedures for data analysis, the concept of these methods are commonly used in societal research involving management and business research. Qualitative approach is simply practiced for data collection techniques and analysis processes which use or create non-numerical statistics. Contrasting, quantitative method for data collections and analysis works on numerical based results (Saunders *et al*, 2007).

Procedure is the main difference between qualitative and quantitative research. Findings are not replicated based on statistical procedures in qualitative research (Ghauri & Grønhaug, 2005). The quantitative research employs measurement whereas qualitative does not (Bryman & Bell, 2003).

Qualitative methods	Quantitative methods
<ul style="list-style-type: none"> ▪ Emphasis on understanding ▪ Focus on understanding from respondent's/ informant's point of view ▪ Interpretation and rational approach ▪ Observations and measurements in natural settings ▪ Subjective 'insider view' and closeness to data ▪ Explorative orientation ▪ Process oriented ▪ Holistic perspective ▪ Generalisation by comparison of properties and contexts of individual organism 	<ul style="list-style-type: none"> ▪ Emphasis on testing and verification ▪ Focus on facts and/or reasons for social events ▪ Logical and critical approach ▪ Controlled measurement ▪ Objective 'outsider view' distant from data ▪ Hypothetical-deductive; focus on hypothesis testing ▪ Result oriented ▪ Particularistic and analytical ▪ Generalisation by population membership

Table 4.2 The Differences in Emphasis in Qualitative and Quantitative Methods (Ghauri & Grønhaug, 2005)

Fundamentally, for applying qualitative method, researchers need to go for *contextual* means gathering background information. Contextual information could be associated to feature of time, location, social and political impacts (Collis & Hussey, 2008, P. 143). This type of research needs the ability for critical and theoretical thinking, analyse and build clear judgement. The ability to originate accurate hypotheses, evaluate with suitable statistical techniques and deduce the gathered data into descriptive material. Researchers can use various methods in numerous project parts, which can be constructed on the scope of the given topic, data sources, purpose for data gathering and the suppositions made during data analysis (Jankowicz, 2005, P. 220). The selection of data compilation will depend on the judgment on which kind of data require for the research problem (Ghauri & Grønhaug, 2005,

P. 108). It also relies on the personal experience of researcher as well as the audience whom, the problem will be reported.

These methods can be used collectively as well as independently for any specific project. Both qualitative and quantitative methods are valuable and authentic in common research. Often, both methods when used jointly lead to broader understanding of the specific topic (Babbie, 2004). Mainly the basis for joining is to capture the potential of both methods and balance the limitations of both approaches (Punch, 2005, P. 241). Logically researcher might start with quantitative method to inspect current facts and then perform qualitative research to develop research questions to get actual picture of the given phenomena. Counter, the process can be start with qualitative approach to discover and examine the research topic and then quantitative technique follows to capitalise the findings. Another aspect is related to the experience and thinking of researcher with respect to the focused topic and area of interest. Kane highlights this scope by symbolising the observations, procedures, questionnaires and interviews:

“if you had to stake your life on which of these is likely to represent the most accurate, complete research information, you would choose the centre ‘(of the overlap)’ in which you got the information through interviews and questionnaire, reinforced it by observation, and checked it through documentary analysis... here, you are getting not only what people say they do and what you see them doing, but also what they are recorded as doing” (Kane, 1985, P.51).

Based on the present research study, both qualitative and quantitative are useful, as it needs data from both methods to retain the research conclusions. Moreover, the descriptions of inductive and deductive, and investigative and illustrative mainly depend on the both qualitative and quantitative data gathering techniques.

4.5.1. Survey Methods

Researches that are conducted by various academic and social practitioners are incomplete unless they conduct proper survey and take active measures to conduct the survey. The methods design for survey helps in answering that who is going to be the respondent, what will be inquired from them, where they going to provide their feedback and specifically what tool will be used in order to generate the results based on the answers collected. The method of survey is particularly designed after knowing the research design. Generally, surveys are conducted to support and write quantitative research because it provides a complete method

and justifying evidences to the research. Through surveys, researchers are able to collect major information based on the sample size or sometimes the population itself (if the population belongs to the focused area of study) (Babbie, 2004; Saunders *et al*, 2007).

Researches that are purely based on survey methods involve various considerations of researchers because the prime concern of the researcher is to maintain the validity and authenticity of the material/content gathered and the results generated. Generally, in surveys, researcher focuses on sample in order to gather views of large population. The researcher, after analysing and studying the population selects the particular chunk and provides them with standardised questions that help in gathering their views. However, the medium of collecting data/information from respondents depends upon the nature of the research (it can be interview, questionnaire, case study, observation or any unobtrusive method) (Babbie, 2010).

The survey method in this research is constructed by using a questionnaire in which standardised questions are asked from the respondents. The more the information is transparent, the easier it will be to maintain the validity and reliability. The survey is conducted in order to analyse the views of respondents regarding the KM on the cultural values, organisational structure, performance of the organisation and the strategies that are specifically applicable to KM. Hence, questionnaire is the easiest and simplest tool, which requires limited time efforts and limited cost. Questionnaire could be emailed to respondents, could be send through direct mailing at homes and offices and by conducting personal survey. However, there are other instruments/mediums to collect data (like observation), but it requires much more time efforts, and it is seen that in observation, case studies and unobtrusive methods, the reliability and authenticity decreases. Hence, the survey will be conducted in order to test the hypothesis and justify the framework of the research (Rubin and Babbie, 2009).

4.5.2. Methods Applied in Current Study

The strategy applied to this research includes both, the qualitative and quantitative methods. However, the design applied to the research is a mixed design of Explanatory and Exploratory Design. Hence, the framework describes the factors that are particularly valid to study the KM application on organisation. The model prepared for the research is applicable and illuminate the KM strategies and it is interlink with the organisational performances. The positivism of the research underlies on the statistical data and the sample size (Marshall &

Rossman, 1995.) However, the post-positivism approach is fulfilled not by the descriptive means to explore the problem, but through the qualitative means that helps in evaluating and discussing the issues highlighted in the research (Hesse-Biber and Leavy, 2010)

This research is particularly design to explore and examine the application of KM strategies towards the telecommunication organisations of Saudi Arabia and Gulf States. Hence, it involves complexity in terms of selecting and applying variables because this research involves the relation of KM with organisational culture (which involves cultural dimensions), social ontology and bond between the employees, their level of communication and interaction, and behaviour of employees within the organisation. It focuses on the evaluation and assessment of information system that are necessary to study the KM. Hence, these variables can be studies through *qualitative means* (Axinn and Pearce, 2006). Qualitative study will help in exploring the application of KM over the organisation culture and it is helpful to study the impact of KM on the organisational culture and structure.

The *quantitative method* is applicable to investigate the tools that are linked to KM in the organisation; such as improvement in technical and organisational skills, documentation making and structuring, creating proper reports, using advance technology in order to enhance results, systematic performances, effective communication and so on (Axinn and Pearce, 2006).

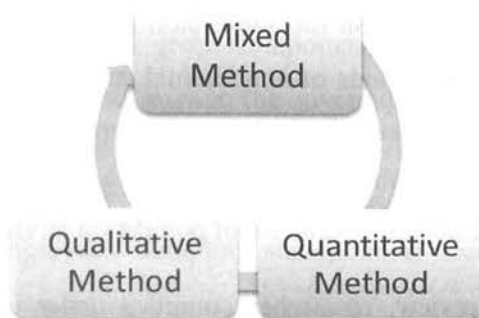


Figure 4.4: Trilogy based on Mixed Method (Axinn and Pearce, 2006)

Hence, these both methods can together give benefit to the research, and will help in performing authentic analysis, writing concrete discussion and delivering constructive conclusion based on analysis, results and discussion. Based on the overall information about methods, strategies, approaches, designs and philosophy, following is the process of research methodology:

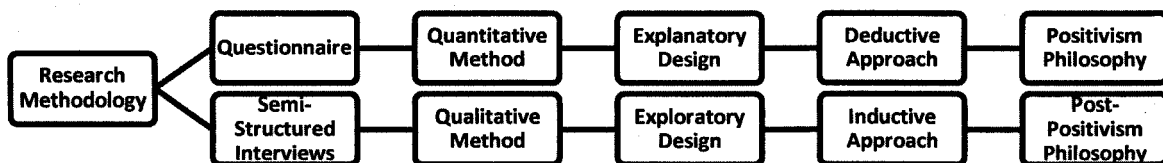


Figure 4.5: Research Methodology Process

4.6. Research Time Dimensions

Longitudinal and Cross-sectional are two major alternatives present for time dimension. Cross-sectional covers the observations of model, population and event that are developed at a particular time point (Babbie, 2006, P. 102). It is the study of definite phenomena at a definite time (Saunders *et al*, 2007, P. 148). Normally, most business researches are cross-sectional theories as they are facing restrictions like resource distribution, budget, staff and time. Opposite, longitudinal studies are practiced to formulate observations of the same topic over the prolonged period (Babbie, 2006, P.103). The purpose of this study is to gather data at two or more than two distinct points in time. Furthermore, data collected through this process is not likely to be used on the same faction of sample that was tested before for original data collection. Three kinds of longitudinal studies have been developed by Babbie (2006, P. 103). In *Trend study* certain features of a population is examined over a time. For *Cohort Study* some particular sub-population is observed over a certain period. Lastly, *Panel Study*- data is collected through the same set of population at various points in time.

Based on the literature review, researches compiled under the perspective of technology acceptance were developed by cross-sectional studies. According to the concept of innovation, advanced and better techniques would be practiced, replacing the previous ones and thus claiming that advanced innovation will be acceptable than the old one according to the longitudinal studies. Hence cross-sectional is more suitable than longitudinal study to compute this adoption. Babbie (2006, P.102) emphasise that descriptive and investigative studies are likely to be cross-sectional. The current study depends on explanatory and

exploratory researches, which determine and evaluate the present knowledge management framework at Saudi Arabian and Gulf countries.

The cross-sectional dimension helps in covering the observation concurrently with the execution of data collection and analysis. It will help in covering the issues and aspects discussed in the research on time. It will reduce the extra time required to perform the research. Moreover, as this research also involves questionnaire and interview as the instrument of data collection, so, it will be unjustified with the participants to engage them for longer time in order to collect data. Hence, cross-sectional dimension will help in covering and concluding the research on time. This will also help in maintaining the relevancy of the topic in the current context (Babbie, 2006).

4.7. Sampling Methods for the Research

Primarily, when any research problem is identified and a suitable research data collection method and design is developed, the next step in the process is to choose the elements through which the accurate information will be composed. One method to execute this would be to gather data information from every member of the specific population. Another method is to gather information from the segment of population by taking a sample from the outsized group and finally infer the results associated to the group (Ghauri & Grønhaug, 2005, P. 145; Churchill & Iacobucci, 2002, P. 448). Therefore, researches require using sampling processes as the selected group is relatively large and consist of many cases or members thus making it complex to collect information from all given components. The performed study uses a strategy of research survey in order to answer the given questions and to complete the purpose of research. It tends to develop an inclusive framework and empirically examine the adoption and recognition of E-commerce technology practices inside SMEs by caring out data collection from SMEs' employees. Sampling standpoint is needed when the group of interest is larger than usual.

4.7.1. Sampling Population

The concept of 'population' is not practiced in the normal sense during the sample procedures and it does not commonly mean by people. In fact, it signifies the complete set of cases through which a sample is chosen (Saunders *et al*, 2007, P.205). Therefore, a population can be observed as total of all the portions that have few common features on (Hair *et al*, 2008, P. 170). Furthermore, the expression 'target population' demotes the overall concept of cases that match the considered specifications, which define the aspects of the target group, and

those which are not (Churchill & Iacobucci, 2002, P. 448). Significantly, research population must be crucially and accurately defined (Aaker *et al*, 2007, P. 381). A sampling frame or structure needs to be recognised in order to deal with the complexity of all the elements.

4.7.2. Sampling Frame

A sampling frame is commonly called as a broad list of elements or members creating a target population from which a sample is taken (Aaker *et al*, 2007, P. 382; Saunders *et al*, 2007, P. 208; Hair *et al*, 2008, P. 173; Babbie, 2006, P.199; Churchill & Iacobucci, 2002, P. 451). This list can be obtained and accessed by researchers for drawing a sample for the process of research study but this frame must be developed on the basis of adequate and complete results, or else inadequate and incorrect list will make a sense that some elements are not included. Thus, it will result into misrepresentation of the selected sample of the target population (Saunders *et al*, 2007, P.208). Although those researchers who try to focus on larger population, it is unreasonable to get an adequate sampling frame list. . *“There is rarely a perfect correspondence between the sampling frame and the target population of interest”* (Churchill & Iacobucci, 2002, P. 451). So concluding it, researchers must have the awareness of selecting a sufficient list of sampling frame for the generalisation of factual and reliable findings.

4.7.3. Sampling Size

The sample size refers to the number of participants that are available to take part in the research. The large sample size represents the population from which the researcher will minimised the size. The sample size can be measured by “ad hoc” methods or “statistical formulas”. The ad hoc method is used when there is any limitation regarding budget. The researcher needs time and budget to use ad hoc method. While, statistical formulas are more generalised and accurate. The statistical formula makes the researcher more confident regarding research (Lawrence, 2007). The sample size helps researcher in making the research more relevant and accurate by providing facts through different statistical tools.

Vitally, the sample size represents the degree of being a portion of the overall population and reflects the fact of how assertively researchers can simplify research findings. Consequently, the broader the sample is, the superior it will signify the population. So in order to simplify the results, there is requirement to examine the minimum size of the sample to represent the size of population (Collis & Hussey, 2008, P.210). Sample size can be resolute either through *ad hoc* techniques or by following statistical formula. Ad hoc techniques are

practiced when the sample size is already determined through the experience of the researcher or when some restrictions are present for instance reasonable sample size depends on budget (Aaker *et al*, 2007, P.408).

Respondents were collected from employees and managers of the sample organisations. Overall, 150 questionnaires per company were distributed and five interviews with managers were conducted. Respondents were collected from a variety of departments, but apart from that, interviewees were randomly selected from those indicating they liked to take part in further research. The sample size was significant enough to allow for generalised results, but did not provide information beyond the state of KM within one sector of Saudi companies. Nonetheless, the research assumed that it could form the basis for further research into the link between social ontology and KM for Saudi Arabia.

4.7.4. Sampling Techniques

Sampling techniques are defined as the techniques that are specifically designed to select the sample for the research. Based on the sampling techniques, there are two classifications; [1] Probability based sampling technique and [2] Non-probability based sampling technique. Probability based sampling technique is defined as selecting the sample size based on the chances. It is based on selecting any sample based on random data. However, non-probability based sampling is based on selecting sample on no chances. It is focused towards some people and personal judgements are involved in it. Probability based sampling is much associated to the survey methods and other experimental strategies that are important for the research. However, non-probability sampling is associated with the interference of the population. The application of non-probability sampling is more towards the case study researches (Cochran, 2007).

Based on the probability sampling, there are following methods: systematic sampling, simple random sampling, cluster sampling, multi-stage sampling and stratified sampling. On the other hand, the non-probability sampling is snowball, quota, self-selection, purposive (judgmental) and convenience sampling (Cochran, 2007; Hair *et al*, 2008, P. 177). See figure

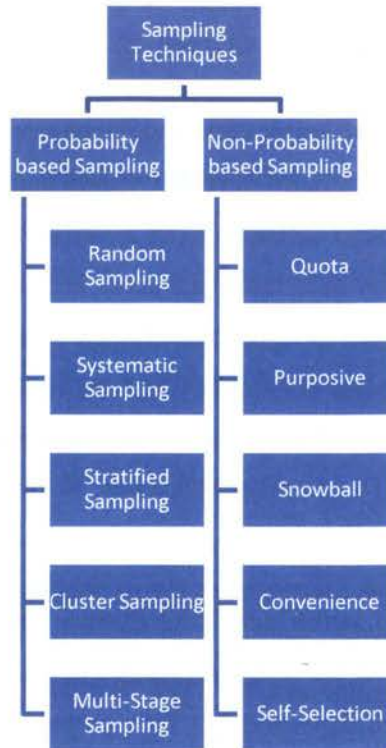


Figure 4.6: Sampling Technique (Cochran, 2007)

For this research, the applicable sampling technique is probability based sampling. This sampling technique involves various advantages than non-probability based sampling. Following are the advantages:

- It let the researcher to identify the representation of sampling;
- Helps in identifying the biases and the explicit information;
- Permits to evaluate the explicit information in order to check the variation seen in the sampling;
- Utilising probability based sampling in order to construct the research.

It is seen in the current context that probability based sampling is widely used in order to select the large organisations and to understand the social researches. Hence, this sampling technique is applied for the research in order to analyse the research (Hair *et al*, 2008, P. 177).

- *Stratified Sampling*

In probability-based sampling, stratified sampling is defined as the alteration of random sampling, which the population of the research is divided in relevant forms based on the number of various characteristics (Cochran, 2007). Hence, a systematic technique is formed for the stratum. However, on the other hand, there are many advantages as well as disadvantages for this sampling technique, which include (Hair *et al*, 2008, P. 177):

- Representation of samples by reducing the number of probable errors.
- The division and section of each sample is the subdivision of the overall population.
- Stratified sampling helps to ensure and represent the overall population.
- Helpful for those researches that involves random sampling.
- Helpful for those researches that involves periodic pattern.

- *Cluster Sampling*

The sampling performed based on various clusters and varied groups is known as cluster sampling. The groups and clusters vary from several entities of business, ethnic groups, organisational groups and geographic groups. This helps in evaluating and understanding the commonalities and specific differences in each cluster that helps in presenting the overall analysis (Cochran, 2007). The essential aspect of cluster sampling is that it forms a unity between each group and clusters. The clusters are selected based on the random technique that is widely used for probability-based sampling. This method is helpful to study the sample that represents the overall population comparatively to stratified sampling. The cluster sampling helps in representing the population and generates concrete results (Hair *et al*, 2008, P. 177).

- *Systematic Sampling*

Systematic sampling helps in systematic performance and identification of sample that helps in listing the elements of population. It helps in identifying the interval between the sample size and the population. The interval is selected based on each unit selected for the sample. Usually it is calculated by dividing the population size and the sample, and whatever interval is identified suppose to be the sample of the research (Cochran, 2007).

Following is the formula to find the systematic sampling:

$$\frac{\text{Sample Size}}{\text{Total Population}}$$

Based on whatever the sample is selected, randomly the data is collected. It helps in specifying the data in systematic manner.

The benefits of systematic sampling are that it is helpful to collect and gather data of population based on large group of population. It is applicable for those researches in which the face-to-face interaction is not possible. Hence, for widely dispersed data, systematic sampling is effectively followed and implemented. Besides this, systematic approach of sampling is not only applicable for 20, 40 or any fixed number of samples, but it is applicable to all sample sizes (Hair *et al*, 2008, P. 177).

- *Multi-stage Sampling*

This sampling technique in probability based sampling is also referred to as cluster sampling of multi stage. In this sampling technique, the data collected is based on clusters specifically when the face-to-face interaction becomes important in geographically diversified population size. Moreover, the biggest constraint in this type of sampling is linked to the time and cost. It requires more time in order to collect face-to-face views of respondents and cost as well because it is not possible to reach to every individual within minimum cost (Cochran, 2007). The sampling technique could be performed in two major stages, which include:

- Listing;
- Sampling.

First of all, the list of the samples are drawn that helps in giving the direction to the researcher to identify the specific sample, then based on the list, the units are specifically selected. This helps in identifying the proper and relevant sample for the research. This sampling technique is then proves to be multi stage due to its two stage process. This process helps the researcher to perform the research and maintain the authenticity of data collection. However, the constraints of this method create difficulty for researcher and prolong the time of research completion (Hair *et al*, 2008, P. 177).

4.7.5. Determination of Sample Size

The sample size of any research is determined based on the conceptual background of the population and information. It is determined based on two major stages. In the initial stage,

the researcher defines the sampling frame and sampling population, and in second stage, the researcher finds out the systematic method that is applicable to the research context (Hair *et al*, 2008, P. 177).

In this research, the chosen companies for data collection and interviewing are the telecommunication industry that exists in Saudi Arabia and the Gulf States. This industry will help in knowing the application of KM and its importance for the employees and the organisation itself. Moreover, some other factors based on the variables will be studied in this research, which include culture, structure, behaviour, communication and interaction of employees based on knowledge management.

150 questionnaires will be distributed in each organisation and the interview of five managers will help in gaining the insights about the application of KM within the structure of the company. So altogether for 3 companies 450 questionnaires were distributed and 15 interviews took place. The interview will also help in relating the culture of the company and the link of it to the KM. Hence, based on the diversification, the sampling technique chosen for this research is a systematic sampling.

4.8. Instruments of Data Collection

Having determined the research paradigm, the appropriate instruments for data collection have to be developed. Verbal and non-verbal data collection encompasses a variety of different research instrument including observational methods; survey research; and secondary data analysis (Punch, 2005). The research methodology for this study is divided into two parts. Initially, theoretical exploratory research will be conducted to gain insights into the topic's existing body of knowledge. To an extent, this part of the research has been completed. Nonetheless, the existing literature review is not comprehensive and the research is anticipated to be conducted over a significant length of time. Therefore, the secondary analysis of both academic literature and business related findings is to be ongoing. This aims to develop the researcher's knowledge and includes a review of the literature to inform the formulation process of research questions as well as enable the researcher to stay informed of the ongoing debate on the topic. Academic books, journals, and the internet have been and will be used. The search strategy for literature was threefold and went from general sources on KM and social ontology to more specific studies concerned with the interrelationship between social ontology and KM and the link between individual and collective identity to KM. Academic databases including EBSCOhost and Sage were utilised for the literature

search. Following and to an extent alongside the evaluation of secondary data primary research will be carried out. This aims to determine the causality between themes identified in the literature. The researcher conducted both qualitative and quantitative research utilising semi-structured interviews and survey questionnaires. The research aimed to develop a wide-ranging picture of the sample organisations, providing specific and generalised information on factors hindering, supporting KM in telecommunication companies in Saudi Arabia in particular, and Saudi companies in general. Moreover, the research developed the field of KM as a whole. Therefore, questionnaires and interviews are regarded as tools to gather information to create a case study of KM in the telecommunication sector in Saudi Arabia.

4.8.1. Quantitative Instrument

4.8.1.1. Development of Questionnaires

One of the questionnaires were aimed at employees and were distributed in the target companies: Etisalat, Zain and Mobily. Questionnaires included questions about organisational structure including levels of formalisation, reward systems and workflow organisations. It aimed to determine and evaluate KM system in place at present and the extent to which employees are aware and utilise these. Moreover, questions regarding social, technological and potentially economic barriers to implementing and using KM systems were included in the questionnaire. The rationale for asking questions about this was to determine the link between employees and managers personal and individual perception of knowledge and organisational strategy. Moreover, findings from the literature suggested that KM needs to be embedded in organisational culture to be effective. Therefore, the last set of questions determined the significance of KM in the organisational culture and vision of the sample organisations. It is believed that organisational culture is not only influenced by the official strategy and objective, but also by the individual perceptions and actions of employees and managers. It was considered to extent the questionnaire and conduct research with both employees and managers of the target organisations. It was planned that within the questionnaire, respondents would have been offered the opportunity to indicate whether they would like to take part in further, more in-depth qualitative research. This option would have been restricted to the questionnaires aimed at managers. However, due to time constraints, only one questionnaire for employees was developed and distributed.

The questionnaire is based on the variables of the BOKMISO framework designed for the research. in this research, the questions are divided into three major portions, which

separately helps in evaluating the relationship between KM and the company itself, KM and the culture of the company, and KM and the overall structure of the organisation. Lastly, it helps in knowing the role that KM specifically plays in order to evaluate and generate good results of the organisation.

The questionnaire is developed based on seven point Likert-scale, which starts from strongly disagree to strongly agree. Questions of each section are divided based on evaluating some important aspects. For example, in the first section where the relation and responses are gathered based on KM and the company, following is the questions formulation and based on evaluating these aspects:

Figure 4.7 below helps in identifying the specific aspects through which the evaluation of the KM system of the company takes place. It particularly it aims to construct the relation between KM and the company based on the company practices, importance of KM and the information systems within organisations.

Construct	Statement	Measurement
Codification (Cohender et al. 1999, p. 239)	<ol style="list-style-type: none"> 1. Knowledge such as problem solving methods, and technical skills or know-how are well codified in our company 2. Knowledge is codified and is shared in form of documents and manuals in our company 	1=strongly disagree to 7=strongly agree
Processes and Mechanisms (Choo, 1996)	<ol style="list-style-type: none"> 1. Company has practices, processes, and mechanisms for creating new knowledge from existing knowledge 2. Company has practices, processes, and mechanisms for knowledge acquisition and sharing 3. Company has practices, processes, and mechanisms for knowledge acquisition from competitors 4. Company has practices, processes, and mechanisms to identify and upgrade best practices 5. Company has practices, processes, and mechanisms to value and protect tacit knowledge of the individuals Company has practices, processes, and	1=strongly disagree to 7=strongly agree

	mechanisms to integrate different types and sources of knowledge	
Explicit Knowledge (Adams et al., 2006)	<ol style="list-style-type: none"> 1. Results of meetings and projects are documented in our company 2. Knowledge can be easily accessed from proper manuals, and documents in our company 	1=strongly disagree to 7=strongly agree
Knowledge Sharing (Zhang et al, 2009)	<ol style="list-style-type: none"> 1. Company make deliberate endeavours to communicates the importance of knowledge on all levels of the organization 2. Informal discussions and meetings also serve as the source of knowledge acquiring and sharing 3. Face to face meetings and discussion are amongst the key sources of knowledge acquiring and sharing 4. Information technology such as internet and intranet are the source of knowledge sharing in our company 	1=strongly disagree to 7=strongly agree
Information Technology (Choo, 1996)	<ol style="list-style-type: none"> 1. Our company offers support through information technology support to facilitate collaborative work opportunities across time and space 2. Our company facilitates communication amongst employees through information technology 3. Search for and gaining access of necessary information and knowledge are 	1=strongly disagree to 7=strongly agree

	<p>facilitated through information technology</p> <p>4. Knowledge is systematically stored through information technology</p> <p>5. Simulations and predictions are performed through the use of information technology in our company</p>	
<p>Mentoring</p> <p>(Choo, 1996)</p>	<p>1. Mentoring is also a source of knowledge acquisition</p>	<p>1=strongly disagree to 7=strongly agree</p>

Figure 4.7 : Knowledge Management in the Company: Strategies and Sources of the Company

The second section below shows Figure 4.8 which is based on the relationship between KM and the culture of the organisation. This particular portion helps in studying the relationship between the organisational culture in terms of valuing the culture and the openness of the culture in order to perform KM and to avail benefits from it.

Construct	Statement	Measurement
<p>Formal and Informal Ways</p> <p>(Chinowsky and Corrillo, 2008)</p>	<p>1. Employees can contact with one another in both formal and informal ways</p> <p>2. Our company encourage collaboration and cooperation amongst employees both through formal and informal ways</p>	<p>1=strongly disagree to 7=strongly agree</p>
<p>Control</p> <p>(Chinowsky and Corrillo, 2008)</p>	<p>3. The prevailing belief is that knowledge management is the task that cannot be designated to particular employees and experts</p>	<p>1=strongly disagree to 7=strongly agree</p>
<p>Authority</p> <p>(Chinowsky and Corrillo, 2008)</p>	<p>1. Individuals employees are encouraged to give their opinions on different matters and make autonomous decisions</p> <p>2. Employees are not forced to refer others for the</p>	<p>1=strongly disagree to 7=strongly agree</p>

	<p>purpose of reaching a decision</p> <p>3. Employees are not forced to consult their seniors to make decisions</p> <p>4. Employees are free to make decisions without approval from their supervisors</p>	
<p>Open Culture</p> <p>(Chinowsky and Corrillo, 2008)</p>	<p>1. Our company offers a supportive, encouraging, supportive, and open culture that facilitates knowledge management</p> <p>2. Employees including top management are helpful and supportive</p> <p>3. Employees including top management can be easily access</p> <p>4. Employees are willing to collaborate within and across teams and within and across departments</p> <p>5. Employees seem satisfied with the ways and level of cooperation and collaboration</p> <p>6. Employees trust each other and are trustworthy.</p> <p>4. Employees show reciprocal faith in each other's ability</p>	<p>1=strongly disagree to 7=strongly agree</p>
<p>Information sharing</p> <p>(Chinowsky and Corrillo, 2008)</p>	<p>1. Employees has a purpose to, and value knowledge management and sharing of best practices and knowledge</p> <p>2. Employees believe that knowledge management and sharing of best practices is the job of each and every individual</p>	<p>1=strongly disagree to 7=strongly agree</p>

Figure 4.8: Knowledge Management and Organisational Culture

The third section Figure 4.9 helps in exploring the relationship between the organisational structure and the KM.

Construct	Statement	Measurement
Workflow (Salisbury & Pass, 2001)	<ol style="list-style-type: none"> 1. The company believes in horizontal integration and emphasize less on hierarchies 2. The company do not focus on vertical integration and hierarchies 3. The employees are not forced to strictly follow the organizational hierarchies rather they are free to make their own decisions 	1=strongly disagree to 7=strongly agree
Tacit Knowledge (Lai & Fan, 2002)	<ol style="list-style-type: none"> 2 The company does not rely on strict control and supervision of day-to-day activities 3 Employees have the liberty to find solutions of issues from all the available channels and sources 4 Employees are not supposed to follow the defined task procedures rather the focus on getting the work done instead of following rules 5 Employees opinion are values and they are encouraged to participate in decision-making 6 Employees have autonomy to do their work 	1=strongly disagree to 7=strongly agree
Explicit knowledge (Lai & Fan, 2002)	<ol style="list-style-type: none"> 1. The company has explicit work rules and policies with a good degree of autonomy 	1=strongly disagree to 7=strongly agree

Figure 4.9: Knowledge Management and Organisational Structure

The fourth section Figure 4.10 explains the role that KM plays to achieve better results and effective performances of the organisation.

Construct	Statement	Measurement
Quality management (Adams et al., 2006)	<div>1. Improving quality</div> <div>2. Faster response to key business issue</div> <div>3. Improving delivery</div>	<div>1=strongly disagree</div> <div>to 7=strongly agree</div>
Organisational improvements (Adams et al., 2006)	<div>1. Employee development</div> <div>2. Cost reduction</div> <div>3. Innovations</div> <div>4. Better decision-making</div> <div>5. Intellectual property rights management</div> <div>6. Improving competitive advantage</div> <div>7. Improving customer focus</div> <div>8. Revenue growth</div>	<div>1=strongly disagree</div> <div>to 7=strongly agree</div>

Figure 4.10: Knowledge Management and Organisational Performance

4.8.2. Pilot Study

Pilot study is said to be the pre-testing of the study. It is used in two different ways in the research related to social sciences. It is defined as the trial run of the research in order to identify some major or minor issues/problems/errors that a researcher or analyser can face during the process of data analysis. It also helps in gaining the first side response of participants based on their views about the questions.

There are various advantages of conducting pilot study before conducting the research (Teijlingen and Hundley, 2001):

- It gives advance knowledge to researcher about the research;
- Helps in highlighting the failure points of the research;
- To understand that the proposed method of the research is appropriate or not;

Moreover, following are the standpoints of the research (Teijlingen and Hundley, 2001):

- Designing the specific protocol of the research;
- Testing the sufficient knowledge of the research;
- Measuring the feasibility of the research;
- Simplifying the survey;
- Identifying the frame of sample and picking up the right technique to conduct the research;
- Developing the plan of the research;
- Pretesting helps in determining the needed resources in order to plan the study;
- Influencing the stakeholders in order to conduct the study.

Pilot testing could be done for both the methods of research. It can provide a clear idea of quantitative research that how the data collection will be done by reducing the chances of errors. There are three major phases of pilot testing. It includes [1] in-depth interviews in order to address issues or the focus group activities that helps in identifying issues and studying it. It also helps in addressing issues at wider scale. [2] Conducting the pilot study for the questionnaires. [3] Conducting tests by distributing questionnaires in order to collect views (Teijlingen and Hundley, 2001).

Hence, in order to maintain the reliability and validity of the research based on errorless paper, a sample was tested on 20 respondents from the employees of three companies. Respondents were also asked to share their views based on questionnaire words, sense of questions, formatting and structure. The response rate among the 20 respondents was 80% where 18 respondents gave the response along with some suggested corrections.

4.8.3. Questionnaire Revision

Based on the reviews collected by the respondents, the alterations were made in order to improve the quality and consistency of the research. For the improvements, the suggestions given by the respondents were considered. The initial questionnaire includes ambiguous

questions, but based on the suggestions, the improvements were made in order to reduce the ambiguity.

4.9. Qualitative Instruments of Data Collection

4.9.1. Research based on Case Studies

Moreover, in order to provide valuable recommendations to telecommunication companies in Saudi Arabia, extensive case study research will be carried out to inform the framework (Avison et al. 1999). It is assumed that this will provide the social ontology with the necessary academic rigour as well as practical applicability. The targeted companies for the case studies will be Etisalat, Zain, and Mobily. Questionnaires collecting quantitative data will be distributed amongst a large sample of employees within these companies. Qualitative research in form of semi-structured interviews will be conducted with department managers, general managers and technical department managers. The findings are used to develop the KM case studies of the companies in question.

4.9.2. Interview Methods

Face-to-face interviews: Those interviews, which are considered as one of the effective and efficient method to determine the desires of interviewer from the interviewee, are called face-to-face interviews. Interviews can appear to be in different phases like unstructured, semi-structured, and structured. Additionally, they can be conducted by one person at a time (individually) or in specific group. The dependability and strength of the data collected from any interview are driven by the kind of interviews practiced and the experience of the interviewer. Potential applicants should be critically selected, as unsystematic selection is not an appropriate recommendation (Gubrium & Holstein, 2002).

Structured Interviews are those, which refer to the situation in which each applicant has to answer a series of pre-selected questions by the interviewer (Denzin & Lincoln, 1994, P. 363). These interviews are very nonflexible. The reason is the limitation in the number of responses and applicants are forced for those giving responses (Steinar, 1996). **Semi-structured interviews** contain a series of open-ended set of questions stranded on the topic which investigator planned to cover. These imprecise questions cleared the topic of interest, which is investigation but offer prospects for both the interviewer and interviewee for additional discussion on the given topic. People with high management skills like managers from small and medium sized organisations should conduct this type of interviews. Questions listed should be useful to the researcher during an interview (Doyle, 2004). An interview is

termed as unstructured when it is observed as informal and casual interview means which is not standardised by a set of questions. During these interviews, there is not a predetermined questions' list to work on. Through this interviewee has an opportunity to show his/her skills and talk about the given topic freely, this type of communication is often called non-directive (Saunders et al, 2007, P.312).

Semi-structured interviews contain series of open-ended questions regarding the topic. The semi-structured interviews helps researcher in exploring the research more deeply. It gives benefit to interviewer and interviewee to discuss the variables more clearly and investigate new question. The interview may feel problems while answering the question. While interviewer is free to answer any question, which is relevant to the research topic. The interviewer can encourage the interviewee on every answer. Thus, in this way the participant will take interest in interview process and give all the answer honestly (Kumar, 2011).

Moreover, the researcher needs to allow the participants to ask any query about research. These types of interview are conducted usually with higher-level management. The researcher needs to prepare all the questions before conducting the interview so that at the time of interview he/she should know what is going to be asked. The pre planned interview question makes the interview easy and simple (Newman, 1998).

Unstructured interviews are known as informal or unofficial interview. It is not consist of listed questions. The researchers do not need to prepare any pre questions for interview. In unstructured interview, the researcher is free to explore the phenomena. Moreover, this type of interview helps in exploring various beliefs, behaviour, topics, situations and viewpoints. This type of interview is known as non-directive preliminary theory. The researcher can test any issue to see the response. There are various situations in which, qualitative interview methods of data collection are used. The qualitative interview helps in demonstrating the researcher and interviewing effectively (King and Horrocks, 2010).

This research focus on quantitative methods of data collection and interpretation so, the researcher has used both method to make the research more reliable and effective. The use of both qualitative and quantitative method helps researcher in providing a detailed research and in-depth-view of findings (Keegan, 2009).

In this research, the researcher has use quantitative tool by distributing the questionnaire. While qualitative method helps researcher in conducting semi-structures interviews from various participants. The data was gathered from various organisation of Saudi Arabia.

There are various situations in which practice of qualitative research interview proved to be more beneficial as a technique for collection of data. These situations can be determined through the following four turns associated to interview (Saunders et al, 2007, P.314):

- *the principle of the research*
- *the importance of making personal contact;*
- *the temperament of the data collection questions;*
- *Duration of time required and completeness of the procedure.*

More accurately, the table below shows the use of various types of interview and the major research categories.

	Exploratory	Descriptive	Explanatory
Structured		✓✓	✓
Semi-structured	✓		✓✓
Unstructured	✓✓		

✓✓ = more frequent, ✓ = less frequent.

Table 4.3 Type of Interviews and the Main Research Categories (Saunders *et al*, 2007)

Additionally to the questionnaires with employees, twenty in-depth interviews with managers in the case study companies were conducted. Interview questions aimed at determining the level of effectiveness of KM system in the company. This included questions regarding formalisation, reward system and work flow. Moreover, it comprised questions about managers' perception of the level of knowledge sharing and barriers to effective knowledge management. The aim of the interviews was twofold. Firstly, it collected data on managers' perception of KM in their organisation. Secondly, it was used to triangulate results with findings from the questionnaires (Bryman & Bell, 2007). This increased the validity of results and allowed for more generalised conclusions.

4.9.2.1. Validity and Reliability of Interview

The interviews are designed to gather the information from various participants. The reliability of interview is based on the experiences and perception of participants. The report of interviewee's is considered as a most important representation in interview process. The validity and reliability helps researcher in checking the research design and structure (Baumgarten, 2012). The qualitative research is classified through the validity and reliability test. The flexibility in interview allows researcher to re-design or re-evaluate the process or

content of interview. The researcher should not give any bias statements. The test of validity and reliability is done in the first step on research (Thomas, Nelson and Silverman, 2011).

4.9.2.2. Methods of Interviewing in Major Studies

The main purpose of interview is to collect data from participants. Thus, it helps researcher in exploring variables of research and identify the relationship among variables. The interviews also motivate and encourage the participants and they respond in way that is more effective. The semi-structured interview helps in analysing the KM technology in telecommunication industry. The adoption of KM helps companies in developing their organisation and adopting changes easily. The interviews also helped in gathering the information regarding innovation and techniques through which KM process can become more understandable. The researcher has focus on few steps while conducting the interviews. The steps include:

- Purpose of interview;
- Time of interview;
- Maintaining neutrality;
- Asking opening question;
- Brief discussion about KM;
- Ending the interview.

4.10. Data Analysis

Both quantitative and qualitative analysis techniques are applied in this research. The quantitative analysis method will be presented by using SPSS to determine correlations and regressions as well as discriminate analysis between dependent and independent variables in the intended study. Likewise, the qualitative analysis techniques will be addressed using Miles and Huberman (1994, p.10) model of qualitative data analysis. Miles and Huberman's model identifies four phases of qualitative data analysis: Data collection, data reduction, data display, and drawing and verification of conclusions. Thereafter, Leximancer version 3 will be used to identify and distinguish most repeated words and phrases as well as most reoccurring important concepts and terminologies in the interview responses. A comprehensive discussion combining and evaluating both quantitative and qualitative findings is used to develop the framework and make recommendations for further research.

All this research will allow for the development of a social ontology based Business Organisation Knowledge Management Framework.

An additional aspect of data analysis of the present study is the need to not only transcribe but also translate research data. The rationale for conducting the interviews in Arabic is to ensure that interviewees' ability to communicate effectively is not affected. The data analysis process for this is to first transcribe the interview data in Arabic and then translate it into English (Bryman & Bell, 2007). However, this influences the potential validity of results, because "differences in the meaning of words between the two languages. This is bound to be time consuming and potentially affects the number of interviews, which can realistically be carried out. Moreover, Saunders et al. (2009) identifies a number of issues when translating questions into other languages. This includes differences between lexical and idiomatic meaning of words in the two languages. Nonetheless, the researcher is a native Arabic speaker; therefore conducting the research itself is less problematic, than the actual translation of content into English. Moreover, to ensure the best match between source and target questionnaire and interview, translation and back translation should be undertaken by two or more independent translators and comparison between the versions should inform the final version. Nonetheless, this adds considerable cost and time constraints to the research.

4.11. Ethical Considerations

In order to conduct any research, it is essential for researcher to focus on ethical limitations in order to maintain the reliability in research. The ethical consideration or limitation plays important role in success of research. The researcher can make the research successful by satisfying all those people who are connected with the research. The research participants are the most important factor because the data regarding the research is gathered from participants only. Hence, the researcher needs to protect the right of participants and maintain the trust. In this way, the participants will feel comfortable in providing the data and sharing their views regarding topic. The researcher needs to ensure that the data of participants will not be share publically and there will be no exploitation of personal data. The researcher needs to answer those entire questions, which are asked by participants because if there is any doubt in participant mind then they will not give the answers, properly.

The data, which is gathered forcefully, will be considered as unethical and the researcher will fail in providing a best research. Negative means of data collection may create adverse effect on research and it may decrease the validity of research. Therefore, the researcher needs to

give freedom to participants, so that they can answer all the questions in relaxed manner. The researcher should give time to participants and give brief information regarding research topic. In order to explain the research topic more clearly the researcher, can provide relevant data to participants for their convenient. The information given by participants should not be exploited or edited by researcher. If the researcher tries to imitate the given data then the research will be considered as failure. There should be no obligation on participant to answer all the questions. Moreover, the researcher should not stress the participants. The researcher can make research more effective by explain the purpose of research to participants. If any participants do not want to answer any question, then researcher should not force him/her (Babbie, 2011). The researcher should not use any political means to conduct the research. If any participant wants to leave in participating, then researcher should not force him/her to participants.

Ethical considerations form an important part of acceptable research practice (Bryman & Bell, 2007). The ethical considerations applicable for this study are informed consent, confidentiality and data protection. Respondents were informed about the purpose of the study as well as their right to withdraw at any point at the beginning of the questionnaire. Moreover, confidentiality and data protection was guaranteed in writing. For the questionnaire, it was assumed that respondents agree to this if they proceed to fill in the questionnaire. Concerning interviews, a written consent form was provided. Moreover, information about UK data protection legislation as well as a write up of the final document was available upon request.

4.12. Conclusion

The research methodology chapter described the development of the BOKMISO and the Hypotheses and the basis of the qualitative and quantitative analysis. The data can easily be gathered if the researcher knows how to collect the data from participants. The accurate data collection tools helps the researcher in gathering the data in less time and less cost. Furthermore, sampling size and techniques helps in understanding the population size and numbers of participants that are best for research. This chapter also explains the ethical limitation, which is necessary to conduct any research effectively.

This chapter also explained various viewpoint and standpoint of authors. These viewpoints are philosophical and knowledge based. Moreover, time dimension, research approaches and strategies are classified and justified to make the research more clear and easy. The ethical

limitations are considered and discussed because to conduct any research it is essential for research to gather the data ethically and within a limit. This chapter also elaborated the sampling procedure, sampling techniques and sampling size to provide visible understanding to readers.

This chapter holds concrete information regarding the methods, tools and instruments of data collection. It also helped in identifying the importance of research by the means of data analysis and gaining the results by reducing the chances of errors. The data analysis tool used for this research is SPSS version 16.0. This tool is one of the widely used tools that helps in generating results through graphs, charts and tables.

CHAPTER FIVE: RESULTS

5.1 Introduction

The chapter presents the data analysis and results. It aims to present the analysis that the researcher conducts after collecting the data from the respondents. This chapter starts with the explanation of various processes, approaches and analysis tools that are specifically used in order to administer the instrument(s) of data collection. In this research, the instrument designed and adopted was a questionnaire (closed-ended questionnaire based on a seven point Likert scaling). After this, the reliability and consistency of the research are illustrated by conducting the reliability test and measuring the constructs. As it is defined earlier that there are two major methods of data collection, that are qualitative and quantitative research. For the quantitative analysis, the software used was SPSS. It is most widely used software, which gives the authentic and reliable results within few minutes. For quantitative research, the analysis is done based on the numbers, mathematical formulas and statistical techniques, which include linear regression, descriptive statistics, multiple regression, independent t-test, one-scale t-test, two scale t-test, ANOVA, f-test and other probability test. After the analysis and applying various tests, subsequently, regression was used, as it is most competent predictors of testing dependent variables that provides best values. These statistical tests help in describing various frequencies, minimum and maximum values, standard deviations, means, medians and modes of independent and dependent variables. In this research, the tests used include regression and correlation, which include model summaries, coefficient of regression and ANOVA. However, the qualitative analysis is based on the analysis, discussion and the results gathered from quantitative analysis. The Verbatim quotation data were obtained from the designed semi-structured interviews. These were analysed through axial, selective and open coding. Hence, with this, it can be said that this chapter works as the core of the research.

5.2 Quantitative Analysis

Quantitative analysis, as mentioned earlier is based on statistical information. In this research, descriptive frequencies are calculated which include standard deviation, means, percentages frequency based on the occurrence level of various responses. Moreover, the regression analysis is also carried out. However, the descriptions of each analysis is given below:

5.2.1 Descriptive Statistics and Frequencies

150 questionnaires were distributed in each organisation and five managers were interviewed to gaining insight into the application of KM within the structure of the company. So altogether for 3 companies 450 questionnaires were distributed and 15 interviews took place. The interview will also help in relating the culture of the company and the link of it to the KM. Hence, based on the diversification, the sampling technique chosen for this research is a systematic sampling.

PART ONE:

Part one discusses the initial question of the research that works as the point of grabbing attention of respondents.

Statistics

	Company	KM Status	KM Recognition	KM Issues	KM meanings
N	Valid	379	379	379	379
	Missing	0	0	0	0
Mean	2.06	2.64	1.87	2.77	3.85
Median	2.00	3.00	2.00	2.00	4.00
Mode	3	3	2	2	6
Std. Deviation	.808	.913	.688	1.269	1.808
Variance	.652	.834	.473	1.611	3.269

Table5.1: Demographics Analysis

The above table is based on the demographics analysis conducted based on the response that are gathered from each company (three telecom companies), KM Status, KM Recognition, KM Issues and KM Meanings. However, below are the detailed descriptive statistics of each question inquired from respondents.

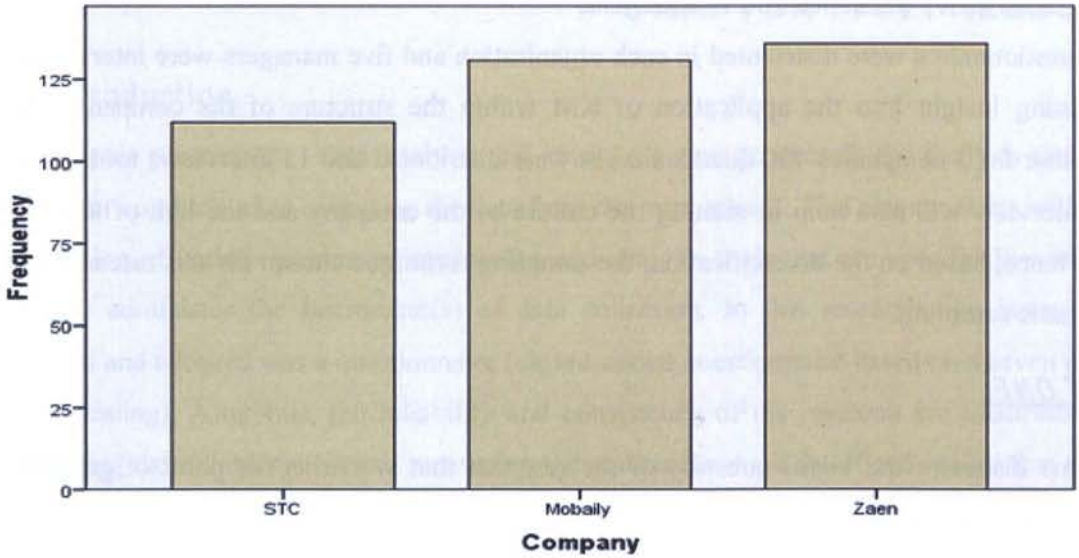


Figure 5.1: Company Respondents

The above graph figure illustrates the response gathered from each company and the contribution of employees in data collection activity. In this graph, it is clearly mention that mostly, the responses gathered were from Zaen. The employees of Zaen highly contributed in filling the questionnaires. At second level, the response generated from Mobailly was up to 34.6%, where the response from Zaen was 35.9%. However, the response by STC was relatively low from Zaen and Mobailly, which was up to 29.6%.

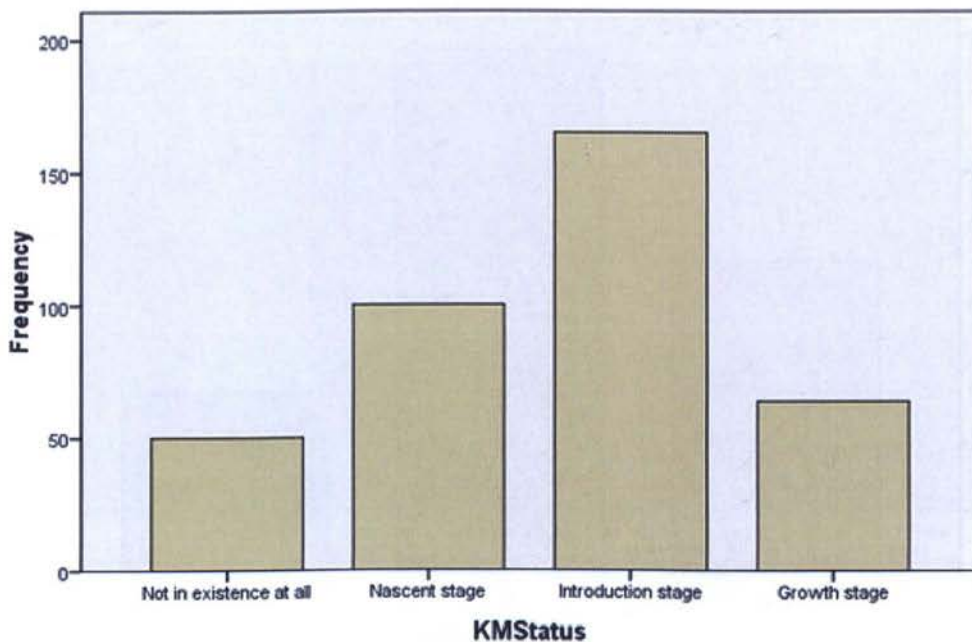


Figure 5.2: Status of KM in the Company

The above figure illustrates the KM Status in STC, Mobaily and Zaen. In this statement, 43.5% have answered that KM Status is in introduction stage. This means that the KM activities are introducing in organisation now to gain future sustainability. The companies are understanding importance of KM due to, which they are adopting the technology of KM in their organisation for better performance. While, 13.2% said that it does not exist at all, this is making the organisation less competitive than others are. In this way, the employees are also facing problems in various organisational projects. The growth of organisation is becoming steady because there is no knowledge sharing and employee are not up-to-dated.

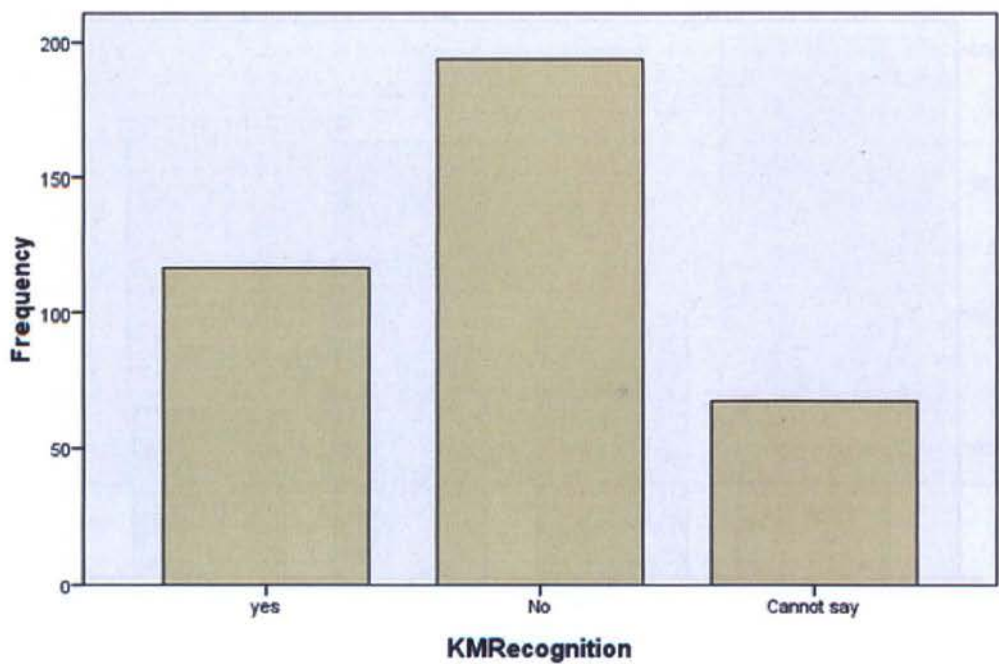


Figure 5.3 Recognition of KM in the Company

In the above figure, it is analysed that either the company is recognising the KM activities in organisation or not. 51% of participants have answered NO because the KM activities in their company is still on introduction stage. The companies needs more time to recognise the KM activities. However, the 30% have answered YES because their company is correctly recognising the KM activities, which is expanding the business operations.

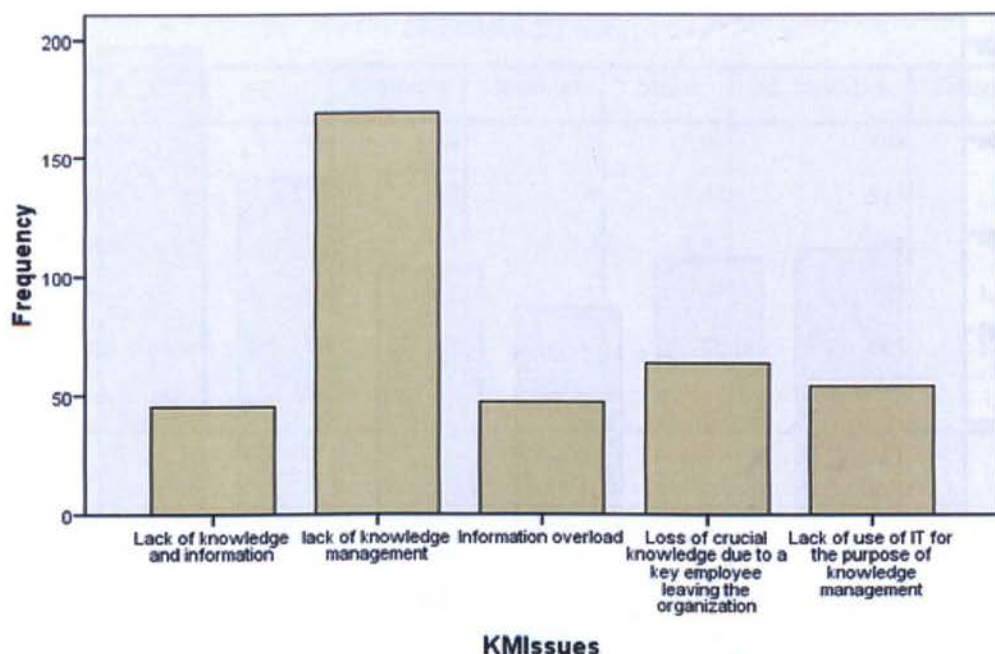


Figure 5.4 KM Issues in the Company

The above statement illustrates those problems that are relevant to KM or knowledge. In this statement, it was analysed that 44.6% have answered that the problem in their organisation is due to lack of KM. The lack of KM is increasing the risk factor and deteriorating their internal system. While 16.9% have answered that there is a loss of crucial knowledge due to key employees are leaving their organisation. Hence, the key employee's plays important role in knowledge sharing so due to their job switching the company may suffer from problems.

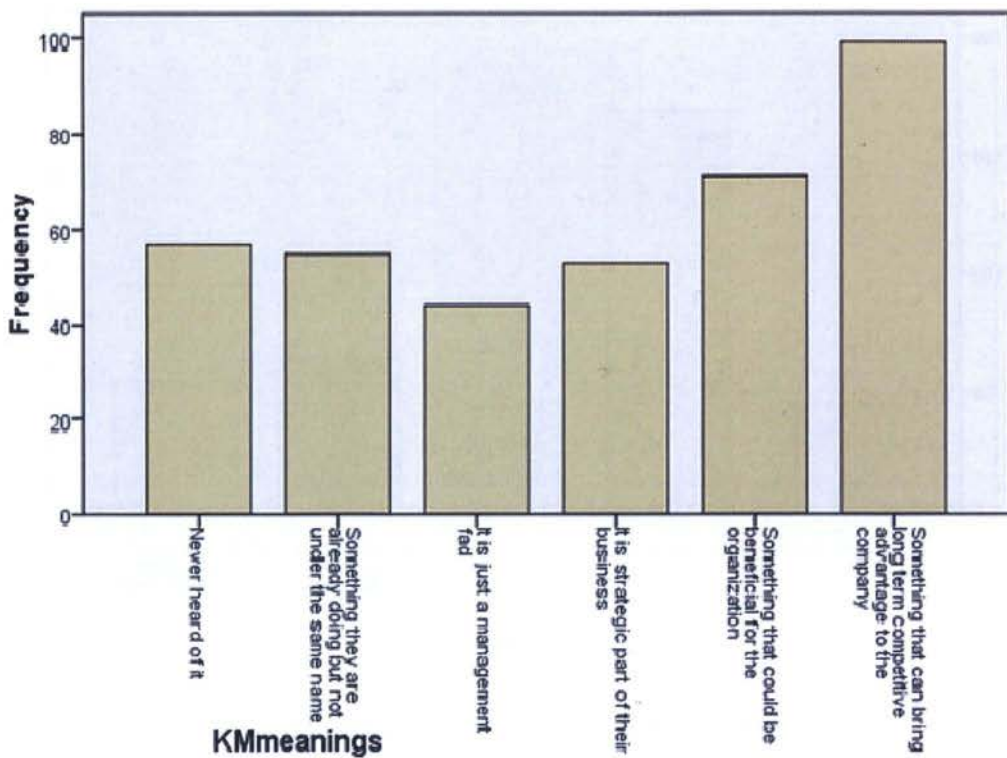


Figure 5.5 Meanings of KM in the Company

The above figure illustrates the meaning of KM in organisations. It shows that what organisations think about KM. In this statement, 26% have answered that it is long-term competitive advantage to the company. In this way, it means that the companies understand the importance of KM and they appreciate knowledge sharing among employees. Moreover, 18.7% have said that it is something, which can be beneficial for organisation. While, 15% never heard about KM.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Company	379	1	3	2.06	.808	.652
KM Status	379	1	4	2.64	.913	.834
KM Recognition	379	1	3	1.87	.688	.473
KM Issues	379	1	5	2.77	1.269	1.611
KM meanings	379	1	6	3.85	1.808	3.269
Valid N (listwise)	379					

Table 5.2 Summary

The above table shows the summary of KM descriptive statistics. It presents the broader view of each statements presented above. This table contains minimum value, maximum value, mean, standard deviation and variance based on KM Status, KM Recognition, KM Issues and KM Meaning.

5.2.2 Descriptive Frequencies

The descriptive frequencies tables are related to question 5 and Part two of the questionnaire. Question 5 is based on knowing the stored knowledge level in the company, whereas part two is comprised of various statements on each independent variable. These statements are evaluated based on seven point likert scale. Each statement is relevant to KM functionality and importance within the organisation and for an individual in the organisation. However, for each statement, certain frequencies are allotted that helps in knowing the level of response gathered on each statement from 1-7. Following are the descriptive frequencies of each question and statement:

Knowledge Storage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	It's quite important, relevant and latest	117	30.9	30.9	30.9
	It's quite important, relevant but not updated regularly	215	56.7	56.7	87.6
	It's just trivial, a part of formalities and of no use	47	12.4	12.4	100.0
	Total	379	100.0	100.0	

Table 5.3 Knowledge Storage

In this question, it was inquired from respondents about the stored knowledge by the company in which 56.7% respondent’s mention that storing knowledge is important for the company and it is relevant, as well, but companies fail to update it on regular basis. This means that as it is identified in earlier analysis that companies are in introductory stage of implementing or identifying the importance of KM; hence, the updating of knowledge storing is still irregular. However, 30.9% respondents find it important, relevant and most importantly they are occupied with latest knowledge. This shows that company knows the worth of storing knowledge as it can be retrieved for later use or bring improvements in the system.

PART TWO

This part belongs to the statements relevant to each independent variable studied in this research. Following are the tables of each statement along with its association with each variable:

K M in the Company: Strategy and Sources of K M

Knowledge such as problem solving methods, and technical skills or know-how are well codified in our company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	89	23.5	23.5	23.5
	Strongly disagree	34	9.0	9.0	32.5
	Somewhat disagree	39	10.3	10.3	42.9
	neutral	32	8.4	8.5	51.3
	Somewhat agree	58	15.3	15.3	66.7
	Strongly agree	72	19.0	19.0	85.7
	Mostly agree	54	14.2	14.3	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.4 Codification of Knowledge in the Company

The above-mentioned table illustrates the strategies and sources relevant to KM. This statement represents the hypotheses of codification (H_{3a}), in which it focuses on transferrable skills that an employee can learn in order to improve their KM. The response was specifically gathered to know the codification of such knowledge within the company. Based on the responses, it is identified that 23.5% respondents mostly disagree with this fact. Knowledge is not codified in their company, which proves that employees find KM as important and relevant, but not implemented or updated.

Knowledge is codified and is shared in form of documents and manuals in our company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	42	11.1	11.1	11.1
	Strongly disagree	93	24.5	24.6	35.7
	Somewhat disagree	38	10.0	10.1	45.8
	neutral	51	13.5	13.5	59.3
	Somewhat agree	75	19.8	19.8	79.1
	Strongly agree	51	13.5	13.5	92.6
	Mostly agree	28	7.4	7.4	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.5: Codification through Documents and Manuals

This table tends to gather views of respondents based on codification of knowledge through written methods of sharing information (that are documents and manuals). This statement also represents the hypothesis of codification (H_{3a}). In this statement, 24.6% respondents strongly disagree.

Results of meetings and projects are documented in our company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	28	7.4	7.4	7.4
	Strongly disagree	46	12.1	12.2	19.6
	Somewhat disagree	78	20.6	20.6	40.2
	Neutral	53	14.0	14.0	54.2
	Somewhat agree	104	27.4	27.5	81.7
	Strongly agree	40	10.6	10.6	92.3
	Mostly agree	29	7.7	7.7	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.6: Documentation in the Company

This statement is linked to the hypothesis of explicit knowledge (H3c). This statement is linked to the explicit tools and knowledge that helps an employee to learn skills and to gain information though verbal and written means. In this statement, 27.5% respondents showed somewhat agreement. However, 7.4% respondents mostly disagreed and 7.7% mostly agreed.

Knowledge can be easily accessed from proper manuals, and documents in our company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	59	15.6	15.6	15.6
	Strongly disagree	58	15.3	15.3	31.0
	Somewhat disagree	68	17.9	18.0	48.9
	Neutral	87	23.0	23.0	72.0
	Somewhat agree	57	15.0	15.1	87.0
	Strongly agree	26	6.9	6.9	93.9
	Mostly agree	23	6.1	6.1	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.7: Knowledge Accessibility

This statement is linked to the hypothesis of explicit knowledge (H_{3a}). In this statement, the highest respond was recorded at neutral point where 23% respondents neither agreed nor disagreed. However, the second high response was 18% that was somewhat disagree.

Information technology such as internet and intranet are the source of knowledge sharing in our company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	36	9.5	9.5	9.5
	Strongly disagree	50	13.2	13.2	22.8
	Somewhat disagree	63	16.6	16.7	39.4
	neutral	63	16.6	16.7	56.1
	Somewhat agree	92	24.3	24.3	80.4
	Strongly agree	38	10.0	10.1	90.5
	Mostly agree	36	9.5	9.5	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table5.8: IT as the Source of Knowledge Sharing

This statement is linked to the hypothesis of knowledge sharing (H_{3d}). In this statement, it was inquired that whether the internet or intranet are the source of knowledge for the company or not. Based on the results generated, it was identified that the majority of the respondents showed somewhat agreement on the statement that internet and intranet are the source of knowledge sharing within the organisation. 24.3% respondents mentioned that they are somewhat agree about the fact that in the company, internet and intranet system helps in sharing information and knowledge. Moreover, it also helps in gaining new information in order to deal with issues. However, 16.7% respondents showed neutral response over this statement.

Our company offers support through information technology support to facilitate collaborative work opportunities across time and space

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	86	22.7	22.8	22.8
	Strongly disagree	57	15.0	15.1	37.8
	Somewhat disagree	54	14.2	14.3	52.1
	Neutral	52	13.7	13.8	65.9
	Somewhat agree	48	12.7	12.7	78.6
	Strongly agree	48	12.7	12.7	91.3
	Mostly agree	33	8.7	8.7	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table5.9: IT Support to Facilitate Collaborative Work

This statement belongs to the hypothesis of information technology (H3e). This sub-hypothesis is linked to the hypothesis of KM strategies required in order to manage KM of the organisation. In this statement, it was inquired from respondents that whether their company supports IT system in order to facilitate collaborative working opportunities across time and space. In this statement, 22.8% of the respondent's mention that they mostly disagree with this because their organisation does not facilitate collaborates working opportunities based on the information technology system. This disagreement is due to the lack of KM support in the organisation, which reduces the implementation of effective IT system.

Our company facilitates communication amongst employees through information technology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	79	20.8	20.9	20.9
	Strongly disagree	53	14.0	14.0	34.9
	Somewhat disagree	53	14.0	14.0	48.9
	neutral	53	14.0	14.0	63.0
	Somewhat agree	38	10.0	10.1	73.0
	Strongly agree	44	11.6	11.6	84.7
	Mostly agree	58	15.3	15.3	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table5.10: Communication through IT System

This statement is about the important of IT system within the organisation in order to facilitate employees with two-way communication. It helps in identifying the level at which the organisation manages the communication between employees by effective IT. 20.9% respondents mostly disagreed with this statement. They disagreed because organisation does not facilitate them with effective KM and that is why they are unable to conduct two-way communication. This also increases the complexity within the organisational communication structure. This statement represents the link with the hypothesis of KM strategies and the sub-hypothesis is H_{3e} that is based on exploring the link between IT and KM strategies necessary for the organisation.

Search for and gaining access of necessary information and knowledge are facilitated through information technology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	91	24.0	24.1	24.1
	Strongly disagree	52	13.7	13.8	37.8
	Somewhat disagree	46	12.1	12.2	50.0
	neutral	64	16.9	16.9	66.9
	Somewhat agree	51	13.5	13.5	80.4
	Strongly agree	39	10.3	10.3	90.7
	Mostly agree	35	9.2	9.3	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table5.11: Search for Information through IT

In this statement, it was asked from the respondents that IT system of the company help organisations to search for new information and knowledge that can help employees to improve their organisational capabilities. In this statement, 24.1% respondents mostly disagree because their organisation is not supporting effective IT system, which can help them to gain new information and knowledge. The majority response gathered was towards the disagreement. Even, the necessary information is not provided with the support of IT system. This can be one of the barriers in the growth of organisation based on its competencies. However, 13.5% respondents mention that their organisation helps them to access the information through IT system.

Knowledge is systematically stored through information technology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	92	24.3	24.3	24.3
	Strongly disagree	55	14.5	14.6	38.9
	Somewhat disagree	61	16.1	16.1	55.0
	Neutral	52	13.7	13.8	68.8
	Somewhat agree	54	14.2	14.3	83.1
	Strongly agree	39	10.3	10.3	93.4
	Mostly agree	25	6.6	6.6	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table5.12: Storing of Information

This statement is related to the concept of information storing as well as information technology. In this statement, the views of respondents are gathered to know the level of storing the knowledge through effective IT system by the organisation so that the knowledge can be retrieved for later use if required. 24.3% respondents mostly disagree upon this statement because their company do not store the knowledge through IT system. However, 14.3% respondents showed somewhat agreement because their organisation knows the worth of storing the information, which can help employees for later use. This statement is linked to the sub-hypothesis H_{3e} .

Simulations and predictions are performed through the use of information technology in our company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	94	24.8	24.9	24.9
	Strongly disagree	52	13.7	13.8	38.6
	Somewhat disagree	52	13.7	13.8	52.4
	neutral	62	16.4	16.4	68.8
	Somewhat agree	65	17.2	17.2	86.0
	Strongly agree	31	8.2	8.2	94.2
	Mostly agree	22	5.8	5.8	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.13: Use of IT for Simulations

This statement is link to the use of predictions and simulations in order to manage the knowledge of the company through IT system. In this statement, 24.9% of the respondents mentioned that their organisation do not use IT in order to perform simulations and predictions. That is why these employees are unable to use the latest technology. However, on the other hand, 17.2% respondents showed somewhat agreement over the statement that their organisation uses IT to manage the simulation and predictions. This helps them to enhance their working capabilities and such organisations are able to manage successfully their knowledge. This statement represents the H_{3e} .

Face to face meetings and discussion are amongst the key sources of knowledge acquiring and sharing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	31	8.2	8.2	8.2
	Strongly disagree	51	13.5	13.5	21.7
	Somewhat disagree	56	14.8	14.8	36.5
	neutral	59	15.6	15.6	52.1
	Somewhat agree	111	29.3	29.4	81.5
	Strongly agree	46	12.1	12.2	93.7
	Mostly agree	24	6.3	6.3	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.14: Face-to-face Meetings for KM

In this statement, it was asked from respondents that are face-to-face meeting and discussions are the most important sources of knowledge sharing, acquiring and effective KM. based on the response, it is identified that approximately 29.4% respondents showed somewhat agreement to it. According to them, face-to-face meetings and discussions are the most important ways through which employees can share their views. This helps them to do effective brainstorming. However, 14.8% respondents showed somewhat disagreement. This statement represents the hypothesis of knowledge sharing, which is H_{3d} .

Informal discussions and meetings also serve as the source of knowledge acquiring and sharing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	22	5.8	5.8	5.8
	Strongly disagree	54	14.2	14.3	20.1
	Somewhat disagree	58	15.3	15.3	35.4
	Neutral	55	14.5	14.6	50.0
	Somewhat agree	110	29.0	29.1	79.1
	Strongly agree	54	14.2	14.3	93.4
	Mostly agree	25	6.6	6.6	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.15: Informal Discussion in Knowledge Sharing

In this statement, it was asked from the employees that whether informal discussion and general meetings serve as the source of knowledge sharing and acquisition. The answers gathered represents that approximately 29.1% respondents showed somewhat agreement to this statement. Moreover, the inclination of respondents in this statement was more towards the agreement rather than disagreement. This is because that employees view informal meetings and discussion as the source of sharing ideas and these ideas can be translated in formal structure in order to gain sustainability within the organisation. This statement represents the hypothesis H_{3d}.

Mentoring is also a source of knowledge acquisition

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	20	5.3	5.3	5.3
	Strongly disagree	40	10.6	10.6	15.9
	Somewhat disagree	53	14.0	14.0	29.9
	neutral	61	16.1	16.1	46.0
	Somewhat agree	110	29.0	29.1	75.1
	Strongly agree	62	16.4	16.4	91.5
	Mostly agree	32	8.4	8.5	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.16: Mentoring in KM

This statement represents the hypothesis of mentoring i.e. H_{3f} . This statement helps in identifying the role that KM plays to guide and train employees for effective performances. It helps in identifying that how mentoring helps employees to acquire effective knowledge. 29.1% respondents mention that they are somewhat agreed to this statement.

Company has practices, processes, and mechanisms for creating new knowledge from existing knowledge

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	94	24.8	24.9	24.9
	Strongly disagree	61	16.1	16.1	41.0
	Somewhat disagree	50	13.2	13.2	54.2
	Neutral	58	15.3	15.3	69.6
	Somewhat agree	60	15.8	15.9	85.4
	Strongly agree	39	10.3	10.3	95.8
	Mostly agree	16	4.2	4.2	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.17: Creating New Knowledge from Existing Knowledge

This statement means to inquire from employees about the company's policies and practices related to the KM creation. According to 24.9% respondents (mostly disagree), their company do not follow practices, processes and mechanisms for creating new knowledge from existing knowledge. This means that in such companies, the usage of KM strategies is relatively low or absent, whereas 15.9% respondents mention that their company follow practices for creating new knowledge from existing one.

Company has practices, processes, and mechanisms for knowledge acquisition and sharing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	88	23.2	23.3	23.3
	Strongly disagree	71	18.7	18.8	42.1
	Somewhat disagree	54	14.2	14.3	56.3
	Neutral	57	15.0	15.1	71.4
	Somewhat agree	54	14.2	14.3	85.7
	Strongly agree	36	9.5	9.5	95.2
	Mostly agree	18	4.7	4.8	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.18: Knowledge Acquisition and Sharing

This statement is linked to the previous statement where it is inquired from respondents about the policies, processes, practices and mechanisms that their company follows to share and acquire knowledge. In this statement, 23.3% respondents (mostly disagree) mention that their company do not follow knowledge acquisition and sharing tools within their mechanisms. Moreover, this statement is linked to H_{3b}.

Company has practices, processes, and mechanisms for knowledge acquisition from competitors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	90	23.7	23.8	23.8
	Strongly disagree	59	15.6	15.6	39.4
	Somewhat disagree	56	14.8	14.8	54.2
	Neutral	68	17.9	18.0	72.2
	Somewhat agree	53	14.0	14.0	86.2
	Strongly agree	32	8.4	8.5	94.7
	Mostly agree	20	5.3	5.3	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.19: Knowledge Acquisition from Competitors

This statement meant to identify the importance of processes for knowledge acquisitions from competitors in order to know their core competencies and to follow it by adding some value in it. This can help organisation to enhance its existing knowledge level. In this statement, 23.8% respondents mostly disagreed because their organisation does not follow practices for knowledge acquisitions from competitors.

Company has practices, processes, and mechanisms to identify and upgrade best practices

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	100	26.4	26.5	26.5
	Strongly disagree	57	15.0	15.1	41.5
	Somewhat disagree	50	13.2	13.2	54.8
	Neutral	62	16.4	16.4	71.2
	Somewhat agree	51	13.5	13.5	84.7
	Strongly agree	37	9.8	9.8	94.4
	Mostly agree	21	5.5	5.6	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table5.20: Practices to Upgrade Best Practices

In this statement, it is asked from the respondents to share that whether their company adopt practices, processes and mechanisms specifically to identify and upgrade best practices. 26.5% respondents (mostly disagree) mention that their company do not follow practices and mechanisms to identify and upgrade best practices, whereas 13.5% respondents (somewhat agree) mention that their organisation follow practices to identify and upgrade their KM practices.

Company has practices, processes, and mechanisms to value and protect tacit knowledge of the individuals.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	102	26.9	27.0	27.0
	Strongly disagree	60	15.8	15.9	42.9
	Somewhat disagree	51	13.5	13.5	56.3
	Neutral	62	16.4	16.4	72.8
	Somewhat agree	49	12.9	13.0	85.7
	Strongly agree	36	9.5	9.5	95.2
	Mostly agree	18	4.7	4.8	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table5.21: Mechanisms to Value Tacit Knowledge

In this statement, approximately 27.0% respondents (mostly disagree) mention that their company do not follow practices, processes and mechanisms to value and protect the tacit knowledge of individuals. On the other hand, 13% respondents (somewhat agree) mention that their company value tacit knowledge of individuals.

Company make deliberate endeavours to communicates the importance of knowledge on all levels of the organization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	87	23.0	23.0	23.0
	Strongly disagree	58	15.3	15.3	38.4
	Somewhat disagree	59	15.6	15.6	54.0
	Neutral	64	16.9	16.9	70.9
	Somewhat agree	56	14.8	14.8	85.7
	Strongly agree	35	9.2	9.3	95.0
	Mostly agree	19	5.0	5.0	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.22: Deliberate Endeavors to Communicate Knowledge

In this statement, it was asked from respondents to share their views about their company's use of deliberate endeavours to communicate the knowledge at all levels of the organisation in order to generate better results and to enhance the growth of the company. 23% respondents in this case (mostly disagree) mention that their company do not make deliberate endeavours. On the other hand, 14.8% respondent's (somewhat agreed) mention that their company make deliberate endeavours, which helps them to communicate at all levels of the organisation.

Company has practices, processes, and mechanisms to integrate different types and sources of knowledge

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	96	25.3	25.4	25.4
	Strongly disagree	60	15.8	15.9	41.3
	Somewhat disagree	45	11.9	11.9	53.2
	Neutral	61	16.1	16.1	69.3
	Somewhat agree	46	12.1	12.2	81.5
	Strongly agree	47	12.4	12.4	93.9
	Mostly agree	23	6.1	6.1	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.23: Integrating Different Sources of Knowledge

In this statement, it was asked from respondents to share their views regarding the integration of other types of KM sources. 25.4% (mostly disagree) respondents mention that their company do not use any process and mechanism to integrate different sources and types of knowledge. On the other hand, 12.2% respondents somewhat agreed.

KM in the Organisation: KM and Organisational Culture

Employees has a purpose to, and value knowledge management and sharing of best practices and knowledge

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	35	9.2	9.3	9.3
	Strongly disagree	40	10.6	10.6	19.8
	Somewhat disagree	50	13.2	13.2	33.1
	Neutral	63	16.6	16.7	49.7
	Somewhat agree	106	28.0	28.0	77.8
	Strongly agree	51	13.5	13.5	91.3
	Mostly agree	33	8.7	8.7	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.24: Sharing of Best Practices and Knowledge

The statement in this table illustrate that knowledge management sharing is the best practices done by employee. In this statement 28 % were strongly agree that employee has a purpose to values knowledge because it increase their intellectual skills. While, 9.2 % were mostly disagree from this statement.

Our company offers a supportive, encouraging, supportive, and open culture that facilitates knowledge management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	55	14.5	14.6	14.6
	Strongly disagree	77	20.3	20.4	34.9
	Somewhat disagree	84	22.2	22.2	57.1
	Neutral	57	15.0	15.1	72.2
	Somewhat agree	45	11.9	11.9	84.1
	Strongly agree	44	11.6	11.6	95.8
	Mostly agree	16	4.2	4.2	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.25: Open Culture to Facilitate Knowledge Management

This statement refers to the support and practices of company, which facilitates knowledge management activities in organisation. In this statement 20 % of participants were disagree because their company do not focus on KM activities and the internal culture of their organisation is not encouraging and supportive.

Employees believe that knowledge management and sharing of best practices is the job of each and every individual

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	58	15.3	15.3	15.3
	Strongly disagree	59	15.6	15.6	31.0
	Somewhat disagree	81	21.4	21.4	52.4
	Neutral	67	17.7	17.7	70.1
	Somewhat agree	66	17.4	17.5	87.6
	Strongly agree	31	8.2	8.2	95.8
	Mostly agree	16	4.2	4.2	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.26: Sharing of KM is the Job of Every Individual

This statement is about employee who believes that sharing best practices and knowledge in organisation is the responsibility of each employee. In this statement, 17 % of participants were agree because they believe that in today's competitive world new ideas and knowledge plays important role to innovate the business further.

The prevailing belief is that knowledge management is the task that cannot be designated to particular employees and experts

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	61	16.1	16.1	16.1
	Strongly disagree	71	18.7	18.8	34.9
	Somewhat disagree	60	15.8	15.9	50.8
	Neutral	86	22.7	22.8	73.5
	Somewhat agree	56	14.8	14.8	88.4
	Strongly agree	26	6.9	6.9	95.2
	Mostly agree	18	4.7	4.8	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.27: Prevailing Belief about KM

This statement illustrate that the Knowledge management is not for any specific person or employee. In this, 22 % of participants were neutral because they believe that KM is that task which is performed by the entire individual because knowledge sharing enhances the knowledge of other employees.

Individuals employees are encouraged to give their opinions on different matters and make autonomous decisions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	97	25.6	25.7	25.7
	Strongly disagree	57	15.0	15.1	40.7
	Somewhat disagree	62	16.4	16.4	57.1
	Neutral	53	14.0	14.0	71.2
	Somewhat agree	70	18.5	18.5	89.7
	Strongly agree	26	6.9	6.9	96.6
	Mostly agree	13	3.4	3.4	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.28: Encouragement of Employees in giving opinions

In this statement, it is explained that employees are encouraged when they share their opinions with others. 18% of participants were agree with this statement because they believe that when they give opinion to other they feel encouraged and they like to guide others.

Employees are not forced to refer others for the purpose of reaching a decision

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	105	27.7	27.8	27.8
	Strongly disagree	65	17.2	17.2	45.0
	Somewhat disagree	50	13.2	13.2	58.2
	Neutral	62	16.4	16.4	74.6
	Somewhat agree	56	14.8	14.8	89.4
	Strongly agree	28	7.4	7.4	96.8
	Mostly agree	12	3.2	3.2	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.29: Employees are not Force to Refer Others

This statement illustrate that employee are not force to refer others for reaching to a particular decision. In this statement, 27% of participants mostly disagree because they think that employees are forced to refer others for making a decision.

Employees are not forced to consult their seniors to make decisions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	116	30.6	30.7	30.7
	Strongly disagree	64	16.9	16.9	47.6
	Somewhat disagree	49	12.9	13.0	60.6
	Neutral	59	15.6	15.6	76.2
	Somewhat agree	52	13.7	13.8	89.9
	Strongly agree	21	5.5	5.6	95.5
	Mostly agree	17	4.5	4.5	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.30: Consulting Seniors to Make Decision

This statement illustrate that employees are not forces in consulting their seniors to make any decision. This statement means that employees can ask the help of others while making any decision. In the statement, 30% of participants mostly disagree because in their organisation employees are forced to consult the senior members before making any decision.

Employees are free to make decisions without approval from their supervisors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	120	31.7	31.7	31.7
	Strongly disagree	61	16.1	16.1	47.9
	Somewhat disagree	56	14.8	14.8	62.7
	Neutral	59	15.6	15.6	78.3
	Somewhat agree	34	9.0	9.0	87.3
	Strongly agree	29	7.7	7.7	95.0
	Mostly agree	19	5.0	5.0	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.31: Free to Make Decision without Approval

This statement is about those employees who make decisions. In the statement, it is illustrated that employees in organisation are free to make decision without the approval of supervisor. In this statement, 31% of participants were mostly disagree because in their organisation they are asked to get approval from supervisor before taking any decision. While, 7% of participants were strongly agree because their organisation have given authority to employee to make decision.

Employees can contact with one another in both formal and informal ways

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	52	13.7	13.8	13.8
	Strongly disagree	51	13.5	13.5	27.2
	Somewhat disagree	48	12.7	12.7	39.9
	Neutral	56	14.8	14.8	54.8
	Somewhat agree	87	23.0	23.0	77.8
	Strongly agree	50	13.2	13.2	91.0
	Mostly agree	34	9.0	9.0	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.32: Contact between employees

This statement illustrates the employee relationship. It is based on formal and informal contact between employees. In this statement 23% of participants were somewhat agree because they believe that their organisation allow employees to contact each other in formal or informal way. While, 13% were mostly disagree due to the rigid organisational culture.

Our company encourage collaboration and cooperation amongst employees both through formal and informal ways

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	59	15.6	15.6	15.6
	Strongly disagree	59	15.6	15.6	31.2
	Somewhat disagree	54	14.2	14.3	45.5
	Neutral	70	18.5	18.5	64.0
	Somewhat agree	80	21.1	21.2	85.2
	Strongly agree	37	9.8	9.8	95.0
	Mostly agree	19	5.0	5.0	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.33: Collaboration and Cooperation among Employees

In this table, it is illustrated that the company encourages the cooperation and collaboration among each employees in formal or informal ways. In this statement, 21% of participants were somewhat agree because their organisation allow them to cooperate with other employees and help them whenever needed.

Employees including top management are helpful and supportive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	72	19.0	19.0	19.0
	Strongly disagree	72	19.0	19.0	38.1
	Somewhat disagree	53	14.0	14.0	52.1
	Neutral	73	19.3	19.3	71.4
	Somewhat agree	63	16.6	16.7	88.1
	Strongly agree	27	7.1	7.1	95.2
	Mostly agree	18	4.7	4.8	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.34: Top Management is Helpful

In this statement, it is illustrated that employees expect that top management will be supportive and helpful. In this statement, 19% of participants were mostly disagree because they their top management is not much helpful and supportive. In their organisation, top management only gives orders to employees. In this way, employee does not feel motivated in their job, which also decreases their performance.

Employees including top management can be easily access

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	68	17.9	18.0	18.0
	Strongly disagree	81	21.4	21.4	39.4
	Somewhat disagree	55	14.5	14.6	54.0
	Neutral	52	13.7	13.8	67.7
	Somewhat agree	53	14.0	14.0	81.7
	Strongly agree	44	11.6	11.6	93.4
	Mostly agree	25	6.6	6.6	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.35: Employee with Top Managers can easily Access

In the above table it is illustrated that employee with top managers can easily be accessed because they can easily communicate about any problem with top managers and solve it. In this statement, 21% participants were strongly disagreeing because in their organisation the employees are access properly through top managers. Top managers usually think that at top level they do not understand the problems of employees. However, in this statement only 6.6% of participants were mostly agreeing because in their organisation employees are access through top managers, which are very helpful and encouraging.

Employees are willing to collaborate within and across teams and within and across departments

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	57	15.0	15.1	15.1
	Strongly disagree	53	14.0	14.0	29.1
	Somewhat disagree	50	13.2	13.2	42.3
	Neutral	63	16.6	16.7	59.0
	Somewhat agree	87	23.0	23.0	82.0
	Strongly agree	42	11.1	11.1	93.1
	Mostly agree	26	6.9	6.9	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.36: Collaboration with team and departments

This table illustrates the collaboration of employee with their teams and with teams as well. This table shows the willingness of employee regarding association with their department and other department. In this statement, 23% of participants were somewhat agree because they believe that employees want to expand their circle and they want to build good relationship with their teams and with other departments team inside the organisation.

Employees seem satisfied with the ways and level of cooperation and collaboration

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	77	20.3	20.4	20.4
	Strongly disagree	69	18.2	18.3	38.6
	Somewhat disagree	55	14.5	14.6	53.2
	Neutral	55	14.5	14.6	67.7
	Somewhat agree	67	17.7	17.7	85.4
	Strongly agree	31	8.2	8.2	93.7
	Mostly agree	24	6.3	6.3	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.37: Employee Satisfaction through Cooperation and Collaboration

In this table, it is illustrate that employees are satisfied when they cooperate with other employees at every level. They feel motivated and encouraged when they are building relationship with other colleagues. In this statement, 20 % of participants were mostly disagreeing because they think that this can results in to de-motivation as well.

Employees trust each other and are trustworthy.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	36	9.5	9.5	9.5
	Strongly disagree	41	10.8	10.8	20.4
	Somewhat disagree	53	14.0	14.0	34.4
	Neutral	90	23.7	23.8	58.2
	Somewhat agree	83	21.9	22.0	80.2
	Strongly agree	45	11.9	11.9	92.1
	Mostly agree	30	7.9	7.9	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.38: Trust of Employees on Each Other

The above table shows that employees trust each other and maintain trustworthy relationship within the organisation. In this statement, 23.7 % of participants were neutral because they believe that the trust and loyalty is depending on the nature of employees. Some employees cannot trust on other employee because they might be introvert or more concern towards their work only. While, 21% of employees were somewhat agree because they know that building trust is the essential part in working effectively.

Employees show reciprocal faith in each other's ability

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	29	7.7	7.7	7.7
	Strongly disagree	42	11.1	11.1	18.8
	Somewhat disagree	49	12.9	13.0	31.7
	Neutral	88	23.2	23.3	55.0
	Somewhat agree	91	24.0	24.1	79.1
	Strongly agree	42	11.1	11.1	90.2
	Mostly agree	37	9.8	9.8	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.39: Faith of Employee in Each Other

In the above statement it is illustrated that employee build mutual faithful relationship with other employee. In this statement, 24% of employees are neutral because they believe that it is not necessary that if one employee is faithful then other will also be faithful.

The company has explicit work rules and policies with a good degree of autonomy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	46	12.1	12.2	12.2
	Strongly disagree	67	17.7	17.7	29.9
	Somewhat disagree	71	18.7	18.8	48.7
	Neutral	54	14.2	14.3	63.0
	Somewhat agree	66	17.4	17.5	80.4
	Strongly agree	32	8.4	8.5	88.9
	Mostly agree	42	11.1	11.1	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.40: Explicit work Rules

In the above statement it is illustrated that company has adopted policies and rules in order to ensure the freedom of employee towards any work or decision. In this statement, 18.7% of participants were somewhat disagree because in their organisation employees are not given autonomy and they can communicate with top managers interactively.

Employees are not supposed to follow the defined task procedures rather the focus on getting the work done instead of following rules

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	62	16.4	16.4	16.4
	Strongly disagree	85	22.4	22.5	38.9
	Somewhat disagree	64	16.9	16.9	55.8
	Neutral	54	14.2	14.3	70.1
	Somewhat agree	49	12.9	13.0	83.1
	Strongly agree	36	9.5	9.5	92.6
	Mostly agree	28	7.4	7.4	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.41: Getting Work Done Rather than Following Rules

The above table illustrates the working procedure of employee. In this statement, it is explained that employees are not forced to follow the procedure to accomplish any task all they have to do is getting the task done. In this statement, 22.4% of employees are strongly disagreeing because they are supposed to follow all the rules and procedure in accomplishing any task. They are asked to complete their task through following all the rules.

The company does not rely on strict control and supervision of day-to-day activities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	89	23.5	23.5	23.5
	Strongly disagree	66	17.4	17.5	41.0
	Somewhat disagree	68	17.9	18.0	59.0
	Neutral	54	14.2	14.3	73.3
	Somewhat agree	56	14.8	14.8	88.1
	Strongly agree	25	6.6	6.6	94.7
	Mostly agree	20	5.3	5.3	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.42: Strict Control and Supervision

The above statement is about the control and supervision on day-to-day activities. In this statement, 23.5% of participants mostly disagree because in their organisation the companies rely on strict control and supervision on employees. In this way, employees are not allowed to move freely in organisation. They can communicate or take any decision by themselves.

The employees are not forced to strictly follow the organisational hierarchies rather they are free to make their own decisions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	97	25.6	25.7	25.7
	Strongly disagree	75	19.8	19.8	45.5
	Somewhat disagree	54	14.2	14.3	59.8
	Neutral	72	19.0	19.0	78.8
	Somewhat agree	38	10.0	10.1	88.9
	Strongly agree	26	6.9	6.9	95.8
	Mostly agree	16	4.2	4.2	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.43: Employees are Free to Make own Decision

The above table illustrates the organisation hierarchy of company. This statement refers to the employee authority and decision-making. In this statement, 25% of participants mostly disagree because in their organisation employee are strict to follow organisational hierarchy and they cannot make decision without the approval of supervisor.

The company do not focus on vertical integration and hierarchies

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	99	26.1	26.2	26.2
	Strongly disagree	58	15.3	15.3	41.5
	Somewhat disagree	66	17.4	17.5	59.0
	Neutral	56	14.8	14.8	73.8
	Somewhat agree	52	13.7	13.8	87.6
	Strongly agree	26	6.9	6.9	94.4
	Mostly agree	21	5.5	5.6	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.44: Vertical Integration and Hierarchies

In the above table, it is illustrated that company do not focus on vertical integration. In this statement, 26.1% of participants are mostly disagreeing because their organisation focuses much towards vertical integration. While, 6.9% of participants were strongly agree because their organisation do not focus on vertical integration.

The company believes in horizontal integration and emphasize less on hierarchies

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	19	5.0	5.0	5.0
	Strongly disagree	57	15.0	15.1	20.1
	Somewhat disagree	55	14.5	14.6	34.7
	Neutral	62	16.4	16.4	51.1
	Somewhat agree	75	19.8	19.8	70.9
	Strongly agree	77	20.3	20.4	91.3
	Mostly agree	33	8.7	8.7	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.45: Horizontal Integration

In the above statement, it is illustrate that companies believe in horizontal integration. In horizontal integration, the companies do not focus on hierarchies. In this type of culture, the employees can easily communicate and interact with top managers. In this statement, 20.3% of participants were strongly agree because they understand that horizontal integration helps in moving forwards in organisation and making a successful career.

Employees have autonomy to do their work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	91	24.0	24.1	24.1
	Strongly disagree	60	15.8	15.9	39.9
	Somewhat disagree	71	18.7	18.8	58.7
	Neutral	57	15.0	15.1	73.8
	Somewhat agree	46	12.1	12.2	86.0
	Strongly agree	27	7.1	7.1	93.1
	Mostly agree	26	6.9	6.9	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.46: Autonomy to do Work

This table illustrates the freedom of working inside the organisation. In this table 24% of employee were mostly disagree because in their organisation the employee do not get independence to perform their task. They are always ordered by top managers to perform task. Moreover, the less employee autonomy may result in de-motivation of employees. The participants believe that when they are allowed to work according to their own style then they are encourage and keep engage in job, whereas 6.9% mostly agree because in their organisation, employees work according to their own way. In this way, the employees are motivated and give their best outcome.

Employees opinion are values and they are encouraged to participate in decision-making

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	87	23.0	23.0	23.0
	Strongly disagree	68	17.9	18.0	41.0
	Somewhat disagree	60	15.8	15.9	56.9
	Neutral	48	12.7	12.7	69.6
	Somewhat agree	54	14.2	14.3	83.9
	Strongly agree	31	8.2	8.2	92.1
	Mostly agree	30	7.9	7.9	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.47: Value and Encouragement to Employee Opinion

The above table illustrates the value of employee opinion within the organisation. In this statement, 23% of participants mostly disagree because in their organisation employee opinion is not encouraged. They are not allowed to give solution regarding any problem. The top managers are not encouraging them in solving any problem. The employees are not allowed to participate in decision-making.

Employees have the liberty to find solutions of issues from all the available channels and sources

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	87	23.0	23.0	23.0
	Strongly disagree	68	17.9	18.0	41.0
	Somewhat disagree	60	15.8	15.9	56.9
	Neutral	49	12.9	13.0	69.8
	Somewhat agree	48	12.7	12.7	82.5
	Strongly agree	40	10.6	10.6	93.1
	Mostly agree	26	6.9	6.9	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.48: Liberty to employee for Finding Solution

This table illustrates the employee's authority and liberty. In this table, it is explained that employees have the authority to find solution for all the problems and issues arising. They are allowed to find any channel or source from where they can find solution of related issue. In this statement, 23% of participant's were mostly disagreeing because their organisation has not given them liberty to find solution of issues from available channels. While, 6.9% of participants were mostly agree from this statement because their organisation has given them liberty to choose any available channel for solution.

Knowledge Management and Organisational Performance

Improving competitive advantage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	20	5.3	5.3	5.3
	Strongly disagree	13	3.4	3.4	8.7
	Somewhat disagree	36	9.5	9.5	18.3
	neutral	33	8.7	8.7	27.0
	Somewhat agree	47	12.4	12.4	39.4
	Strongly agree	53	14.0	14.0	53.4
	Mostly agree	176	46.4	46.6	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.49: Improving Competitive Advantage

In the above table, it is illustrated that companies are adopting knowledge management activities in order to improve the competitive advantage. In this statement, 46.4% of participants mostly agree because their organisation was improving the competitive advantage through adopting all the practices and tool of knowledge management. This was making them different from other organisation and they were giving completion to other companies.

Improving customer focus

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	11	2.9	2.9	2.9
	Strongly disagree	24	6.3	6.3	9.3
	Somewhat disagree	31	8.2	8.2	17.5
	Neutral	36	9.5	9.5	27.0
	Somewhat agree	51	13.5	13.5	40.5
	Strongly agree	87	23.0	23.0	63.5
	Mostly agree	138	36.4	36.5	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.50 Improving Customer Focus

The above table illustrates the improvement in customer focus after enhancing knowledge management activities in organisation. In this statement, 36.4% of participants were mostly agree because there have experienced that after adopting knowledge management activities their organisation are easily satisfying their customers, which is increasing the customer loyalty as well.

Innovations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	11	2.9	2.9	2.9
	Strongly disagree	13	3.4	3.4	6.3
	Somewhat disagree	45	11.9	11.9	18.3
	Neutral	51	13.5	13.5	31.7
	Somewhat agree	62	16.4	16.4	48.1
	Strongly agree	70	18.5	18.5	66.7
	Mostly agree	126	33.2	33.3	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.51: Innovation

This table illustrates the innovation process in organisation through adopting knowledge management. In this table, 33.2% of participants were mostly agree because in their organisation the innovation was done more rapidly after adopting knowledge management techniques. While, 2.9% of participants were disagree because in their organisation there was less innovation.

Employee development

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	7	1.8	1.9	1.9
	Strongly disagree	22	5.8	5.8	7.7
	Somewhat disagree	32	8.4	8.5	16.1
	Neutral	56	14.8	14.8	31.0
	Somewhat agree	47	12.4	12.4	43.4
	Strongly agree	61	16.1	16.1	59.5
	Mostly agree	153	40.4	40.5	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.52: Employee Development

In this table, it is illustrated that knowledge management has made the employee working faster. This statement explains that giving response faster to any issue helps a lot in resolving any problem. In this statement, 36% of participants mostly agree because in their organisation the employees and management are solving issue through replying faster to any problem. They are evaluating all the problems faster so, that they can take decisions quickly.

Cost reduction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	7	1.8	1.9	1.9
	Strongly disagree	18	4.7	4.8	6.6
	Somewhat disagree	43	11.3	11.4	18.0
	Neutral	49	12.9	13.0	31.0
	Somewhat agree	68	17.9	18.0	48.9
	Strongly agree	73	19.3	19.3	68.3
	Mostly agree	120	31.7	31.7	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.53: Cost Reduction

This table illustrates the cost reduction through knowledge management activities. In this table, 31.7% of participants mostly agree because in their organisation the knowledge management practices are helping in reducing the production cost. In this way, they are working efficiently. While, 1.8% of participants were mostly disagree because they believe that knowledge management is just a practice and it do not help organisation in reducing cost.

Revenue growth		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	19	5.0	5.0	5.0
	Strongly disagree	25	6.6	6.6	11.6
	Somewhat disagree	27	7.1	7.1	18.8
	Neutral	33	8.7	8.7	27.5
	Somewhat agree	72	19.0	19.0	46.6
	Strongly agree	83	21.9	22.0	68.5
	Mostly agree	119	31.4	31.5	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.54: Revenue Growth

This table is related to the revenue growth regarding the participants company. In this table it is illustrated that through knowledge management tools and practices they organisation grow their revenue. In this statement, 31% of participants mostly agree because in their organisation the knowledge management practices were increasing the revenue.

Better decision-making

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	16	4.2	4.2	4.2
	Strongly disagree	29	7.7	7.7	11.9
	Somewhat disagree	24	6.3	6.3	18.3
	Neutral	32	8.4	8.5	26.7
	Somewhat agree	61	16.1	16.1	42.9
	Strongly agree	75	19.8	19.8	62.7
	Mostly agree	141	37.2	37.3	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.55: Decision-Making

This table illustrates the better decision-making process of organisation. The better decision making is possible when employees are allowed to contribute and share their ideas. In this statement, 37.3% of participants mostly agree because they know that knowledge management activities plays important role in enhancing the employee's abilities. It gives a better sense to innovate new ideas. In this way, the better decision is make when there are a lot of ideas.

Intellectual property rights management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	15	4.0	4.0	4.0
	Strongly disagree	24	6.3	6.3	10.3
	Somewhat disagree	29	7.7	7.7	18.0
	Neutral	47	12.4	12.4	30.4
	Somewhat agree	66	17.4	17.5	47.9
	Strongly agree	75	19.8	19.8	67.7
	Mostly agree	122	32.2	32.3	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.56: Intellectual Property Right Management

In this table, it is illustrated that knowledge management has made the employee working faster. This statement explains that giving response faster to any issue helps a lot in resolving any problem. In this statement, 36% of participants mostly agree because in their organisation the employees and management are solving issue through replying faster to any problem. They are evaluating all the problems faster so, that they can take decisions quickly.

Faster response to key business issue

	Frequency	Percent	Valid Percent	Cumulative Percent
Mostly disagree	14	3.7	3.7	3.7
Strongly disagree	22	5.8	5.8	9.5
Somewhat disagree	30	7.9	7.9	17.5
Neutral	43	11.3	11.4	28.8
Somewhat agree	51	13.5	13.5	42.3
Strongly agree	80	21.1	21.2	63.5
Mostly agree	138	36.4	36.5	100.0
Total	378	99.7	100.0	
Missing System	1	.3		
Total	379	100.0		

Table 5.57: Faster Response to Business Issue

In this table, it is illustrated that knowledge management has made the employee working faster. This statement explains that giving response faster to any issue helps a lot in resolving any problem. In this statement, 36% of participants mostly agree because in their organisation the employees and management are solving issue through replying faster to any problem. They are evaluating all the problems faster so, that they can take decisions quickly.

Improving quality

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	10	2.6	2.6	2.6
	Strongly disagree	18	4.7	4.8	7.4
	Somewhat disagree	28	7.4	7.4	14.8
	Neutral	47	12.4	12.4	27.2
	Somewhat agree	57	15.0	15.1	42.3
	Strongly agree	82	21.6	21.7	64.0
	Mostly agree	136	35.9	36.0	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.58: Improving Quality

This table illustrates the improving in quality of products and performance. In this statement, 34% of participants were mostly agree because they believe that after adopting knowledge management practices their performance quality has improved and they are the employees are working more efficiently.

Improving delivery

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly disagree	14	3.7	3.7	3.7
	Strongly disagree	18	4.7	4.8	8.5
	Somewhat disagree	26	6.9	6.9	15.3
	neutral	54	14.2	14.3	29.6
	Somewhat agree	65	17.2	17.2	46.8
	Strongly agree	72	19.0	19.0	65.9
	Mostly agree	129	34.0	34.1	100.0
	Total	378	99.7	100.0	
Missing	System	1	.3		
Total		379	100.0		

Table 5.59: Improving Delivery

This table illustrates improvement in delivery. In this statement, 34% of participants mostly agree that after adopting knowledge management activities in organisation they have improved their delivery process. They believe that their organisation has improved internally and externally and they are giving the best outcome.

5.2.3. Regression Analysis

The regression analysis will help in studying the relationship of each independent variable with the dependent variable separately. Each test that is going to be conducted within the regression aims to deliver the understanding about the variables studied in this research.

HYPOTHESIS 1: Relationship between Organisational Culture and KM of the Organisation

The following are the analyses done to study the relationship between organisational culture and KM of the organisation. The following analysis will help in knowing the contribution of the independent variable in studying the dependent variable.

Variables Entered/Removed^b

Model	Variables Entered	Variables Removed	Method
1	KMCulture ^a		. Enter

a. All requested variables entered.

b. Dependent Variable: KM

The above analysis illustrates the link between the dependent variable “KM of the organisation” is being tested with the independent variable that is “Organisational Culture”.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.254 ^a	.065	.062	1.34925

a. Predictors: (Constant), KMCulture

The above analysis result illustrates the model summary that is based on the relationship between the culture of the organisation and KM of the organisation. The value of R is 0.254, whereas the value of R square is 0.065, which denotes the coefficient of the determination. Further, this value reveals that the variance of 6.5% is in KM of the organisation. The percentage of variance explains that the independent variable “Organisational Culture” showed a connection with the independent variable that is KM of the organisation. The standard error that is estimated by forming this relation is 1.349. It means that the

organisations studied in this research forms a weak or little relationship between the organisational culture and KM of the organisation.

ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	47.223	1	47.223	25.940	.000 ^a
Residual	684.501	376	1.820		
Total	731.724	377			

a. Predictors: (Constant), KMCulture

b. Dependent Variable: KM

The above given analysis result of ANOVA illustrates the significant value of 0.000. This significant value explains that there are little or no chances of relationship between the independent variable organisational culture and the dependent variable KM of the organisation as the significant value is 0.000, which is not actually zero, but holds some very smaller decimal points.

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	6.396	.221		28.994	.000
KMCulture	-.302	.059	-.254	-5.093	.000

a. Dependent Variable: KM

This analysis result illustrates the value of coefficient for the constant of KM Culture. In this table, it is identified that the value of t-statistics is -5.093. The value needs to be lesser than 1.96 in order to accept the null hypothesis and to suggest that there is no relationship between the dependent and independent variable. However, in this case, the value is lesser than 1.96, which suggests that there is no relationship between the culture and KM of the organisation. Hence, it means that the null hypothesis is accepted and alternative is rejected.

HYPOTHESIS 2: Relationship between Organisational Structure and KM of the Organisation

The relationship discussed in this hypothesis is organisational structure and KM of the organisation. This helps in identifying that whether organisational structure is able to form a relationship with the dependent variable that is KM applied within the organisation.

Variables Entered/Removed^b

Model	Variables Entered	Variables Removed	Method
1	Structure ^a		Enter

a. All requested variables entered.

b. Dependent Variable: KM

The above analysis result illustrates the proposed relationship between the dependent variable “KM of the organisation”, which is being tested with the independent variable that is “Organisational Structure”.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.237 ^a	.056	.054	1.35517

a. Predictors: (Constant), Structure

The above-mentioned model summary illustrates the relationship between the structure of the organisation and KM of the organisation. The value of R is 0.237, whereas the value of R square is 0.056, which denotes the coefficient of the determination. The value mentioned in the above table elaborates that the variance is of 5.6%. This percentage explains that the relationship between the independent and the dependent variable is 5.6%, which forms a relationship. It means that within the organisations studied in this research, there is a weak or little relationship between the organisational structure and KM of the organisation.

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	41.208	1	41.208	22.439	.000 ^a
	Residual	690.516	376	1.836		
	Total	731.724	377			

a. Predictors: (Constant), Structure

b. Dependent Variable: KM

The above given analysis result of ANOVA illustrates the significant value of 0.000. This significant value in this hypothesis explains that there is little or somewhat no relationship between dependent and independent variable, which is organisational structure and KM of the organisation. If the significant value would be 0.001, then there was even clear 1% chance of forming a relation, but as the value is 0.000, which shows somewhat little relationship.

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.171	.191		32.334	.000
	Structure	-.246	.052	-.237	-4.737	.000

a. Dependent Variable: KM

The above analysis result based on finding the coefficients of the constant that is KM structure. In this table, it is indicated that the value of t-statistics is -4.737. The value of t-statistics needs to be lesser than 1.96 in order to accept the null hypothesis and greater than 1.96 in order to accept the alternative hypothesis. However, in this case, the value is lesser than 1.96, which suggests that there is no relationship between the structure of the company and KM of the organisation. Hence, it means that the null hypothesis is accepted and alternative is rejected.

HYPOTHESIS 3: Relationship between KM Strategies and KM of the Organisation

The following analysis, which includes regression, ANOVA and coefficients, and these analyses will help in analysing the relationship between KM strategies and KM of the organisation. Following are the results generated by forming the relationship:

Variables Entered/Removed^b

Model	Variables Entered	Variables Removed	Method
1	KMStrategy ^a		Enter

a. All requested variables entered.

b. Dependent Variable: KM

The above analysis result illustrates the link between the dependent variable “KM of the organisation” is being tested with the independent variable that is “KM Strategies”.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.232 ^a	.054	.051	1.35700

a. Predictors: (Constant), KMStrategy

The above analysis result illustrates the model summary based on the relationship between the KM strategies and KM of the organisation. The value of R is 0.232, whereas the value of R square is 0.054, which denotes the coefficient of the determination and it reveals that the variance 5.4% is in KM of the organisation. This explains that the independent variable that is KM strategies is important in this study because the relationship holds up to 5.4%.

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	39.345	1	39.345	21.366	.000 ^a
	Residual	692.380	376	1.841		
	Total	731.724	377			

a. Predictors: (Constant), KMStrategy

b. Dependent Variable: KM

This analysis result illustrates the ANOVA test. The significant value represented in this table is again 0.000, which shows that there is somewhat relationship between dependent and independent variable. In order to show the clear relationship, the value needs to be somewhat greater than 0.000 (like 0.001) and lesser than 0.005.

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	6.314	.224		28.180	.000
KM Strategy	-.272	.059	-.232	-4.622	.000

a. Dependent Variable: KM

The analysis result illustrates the coefficients of the variables based on the constant of KM strategies. This table illustrates the value of t-statistics that is -4.622. In order to accept the null hypothesis, the value of t-statistics needs to be lesser than 1.96. Hence, in this case, the value is lesser than 1.96, which means that alternative hypothesis is rejected and null hypothesis is accepted. There is no relationship between KM strategies of the company and KM of the organisation.

5.2.4. Multiple Regression

The multiple regression analysis helps in studying the regression summary of the overall regression tests applied on each hypothesis.

Variables Entered/Removed^b

Model	Variables Entered	Variables Removed	Method
1	Structure, KMStrategy, KMCulture ^a	.	Enter

a. All requested variables entered.

b. Dependent Variable: KM

In above analysis result illustrates the relationship of all the variables that are studied in this research. It represents the variables entered and the dependent variable that is the KM of the organisation.

Model Summary

Model	R	R Square	Adjusted Square	Std. Error of the Estimate
1	.276 ^a	.076	.069	1.34438

a. Predictors: (Constant), Structure, KM Strategy, KM Culture

The model summary suggests the R Square value based on the combination of all the predictors that are organisational structure, KM strategy and KM culture. The R square value is 0.76, which shows the variance of 7.6% to form a relationship.

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	55.774	3	18.591	10.287	.000 ^a
	Residual	675.950	374	1.807		
	Total	731.724	377			

a. Predictors: (Constant), Structure, KM Strategy, KM Culture

b. Dependent Variable: KM

The above mention analysis result represents the significant value, which was 0.000 for each regression test conducted separately for each hypothesis. Hence, the sum based on all the three variables is 0.000

Coefficients ^a						
		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta		
1	(Constant)	6.591	.241		27.363	.000
	KM Strategy	-.116	.080	-.099	-1.451	.148
	KM Culture	-.134	.097	-.113	-1.380	.168
	Structure	-.107	.074	-.104	-1.455	.146

a. Dependent Variable: KM

The coefficients shows a negative values which is lesser than 1.96. Hence, all the alternative hypotheses are rejected and all null hypotheses are accepted.

5.2.5 Correlation

The correlations table helps in studying the variables based on forming the correlation. Following are the details illustrated through below mention analysis result:

Correlations

		KM Strategy	KM Culture	Structure	KM
KM Strategy	Pearson Correlation	1	.681**	.540**	-.232**
	Sig. (2-tailed)		.000	.000	.000
	N	378	378	378	378
KM Culture	Pearson Correlation	.681**	1	.711**	-.254**
	Sig. (2-tailed)	.000		.000	.000
	N	378	378	378	378
Structure	Pearson Correlation	.540**	.711**	1	-.237**
	Sig. (2-tailed)	.000	.000		.000
	N	378	378	378	378
KM	Pearson Correlation	-.232**	-.254**	-.237**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	378	378	378	378

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

The test of correlations is used in order to interpret statistically the results to know the relationship between each dependent and independent variable. This test reveals that, as the value of the variables is 0.000, which shows vague relationship. Hence, the entire hypotheses are rejected based on it.

5.2.6. Conclusion of Quantitative Analysis

From the overall quantitative analysis, it is identified that the relationship that the researcher tried to explain proves to be rejected. The facts generated from the research suggest that the relationship between the dependent variable and independent variables were all rejected because the organisations that are studied in this research does not apply KM strategies and practices within their organisation. The tables also illustrates that the significant value is 0.000. The significant value is accepted when the value is <0.05 . The value >0.05 is rejected, and the value that goes negatively rejects. In this case, the significant value is 0.000, which shows no relationship, but it might be possible that if the value after three decimal points increases, then there can be diminutive chances to form a relation. However, currently, it

shows vague or no relationship. Moreover, the t-statistics value should be lesser than 1.96. However, in each table, the values are negative, which suggests that there is null relationship.

5.3. Qualitative Analysis

The qualitative analysis is analysed with the help of themes. From the interview, the themes are generated, which will help in analysing the interview questions. These themes support interview and will help in sharing views of respondents. The respondents chosen for the interview are five managers and supervisors of these three companies. The interview was done with them based on their availability and convenience. These managers helped the researcher in knowing the level of KM tools and techniques applied within the organisation. They also helped in knowing that what challenges they are facing particularly to deal with employees due to their lack of knowledge and undeveloped skills. Although, the application of KM within the organisation from top management is weak, but from manager's side, they try their best to educate and share knowledge with employees, but as the system of the organisation does not support knowledge sharing in explicit and tacit way that is why employees are not well trained. Moreover, employees need to understand the specific skills they need.

Throughout the interview, various facts came across. These facts helped in exploring more about the knowledge sharing level of the organisation. These organisations although do not follow any proper tacit or explicit organisation, but their employees are trying harder to perform well.

The interview with each interviewee took 25 to 30 minutes. This was the standard time set for the interview, but some interviewees took only 20 minutes because they shared their views precisely. Moreover, within this time they shared more information, but in precise manner.

To conduct the interview, the appointments were taken. These appointments were taken in order to check the availability and value the time of managers. Moreover, the responses shared by each interviewee were kept confident. Their responses were not shared to any other manager of these organisations.

5.3.1. Thematic Analysis

5.3.1.1. Knowledge Management

The strategies, tools and practices adopted by organisation help in adopting the knowledge management strategies. The organisations can manage its internal operations through providing better opportunities and experiences to employees. The organisations need to understand the importance of knowledge management activities in order to keep the employees on track.

Regarding the knowledge management one of the managers shared that without paying the attention to knowledge the company cannot realise the importance of Knowledge management in the organisation.

Manager A shared that: *The organisation needs to understand the needs and abilities of employees and adopt knowledge management program in order to build future sustainability*". Moreover, keeping the employees engage in work through various challenging tasks helps in making them proactive towards their career.

5.3.1.2. Knowledge as Asset Based

The company makes knowledge management tools as a part of their business. The managers make efforts to provide up-to-dated information to the employees. Businesses are focused on knowledge management and taking it as their most important asset in success. The informal culture of organisation helps in communicating with managers. In this way, the employees can easily share the informative stuff with their colleagues. The companies can provide customer service and gain competitive edge due to its unique qualities and strategies.

Manager D shared that:

"Knowledge management is the present planning that is done by company to practice knowledge sharing among internal resources".

5.3.1.3. Perception of Knowledge Management

The effective planning plays essential role in managing the knowledge and sharing it with colleagues and other departments. The proper procedure and plan can help managers in directing the behaviour of employees towards their work.

Manager A shared his view that:

“The knowledge management is found within the program and plans prepared by the company but it is not working effectively because employees are not adopting it easily”.

However, manager B shared that:

“Due to the employees in effective training the knowledge management strategy is not working properly”.

5.3.1.4. Stored Knowledge in Company

Store knowledge refers to the computer base reading knowledge, which can be accessed anytime. The company that is focusing on store knowledge helps in recalling their records whenever they need. Moreover, it also helps in recording the data into systematic manner. The properly organised record results in employee convenience and it reduces the waste of time.

Manager C shared his view regarding the store of knowledge that:

“It does exist in the organisation but it is not utilised or organises properly. While the existence of a great legacy of experience and a long history of the company”.

5.3.1.5. Attitude of Senior Management

The attitude of top managers towards knowledge management plays an important role because the views and perception of managers help in following the strategies. The senior managers can make the employees committed towards work through keeping them motivated and empowered towards work. The flexible attitude of senior managers plays an essential role in the employee performance.

Manager A shared his view that:

“Knowledge management in the past with old management of company was weak, but with the new administration, it is interesting and well directed towards activating the role of knowledge management”.

Manager E shared that:

“The new, young and talented management is able to handle the knowledge management activities and direct the behaviour of employees towards work due to proactive and creative management”.

5.3.1.6. Culture and employee habits in relation to KM

The managers need to incorporate the culture of organisation with knowledge management. It helps in directing the behaviour of employees and sharing the values of employees among each other. The flexible culture of organisational support knowledge management and it provides opportunity to share the information and access the data easily.

Manager B shared his view regarding culture and employee habits in relation with KM that:

"The new generation within the company can say that they understand and recognises the role of knowledge, but the old staff is not supporting the concept of knowledge management".

5.3.1.7. Culture of company and KM

The culture of company needs to be flexible in order to support the knowledge management concept. The effective and participatory culture makes the employees interested towards work and it also motivate the employees. If the culture of the company does not support the knowledge management activities then it is impossible to keep the organisation and employees on track.

Manager A shared his view regarding his company that *"the existing culture is not supportive due to directed across programs posed by the company to change the culture in order to be a culture of support for knowledge management"*.

5.3.1.8. Key Cultural and Structural barrier

In knowledge management, there are certain culture and structural barrier that results in dissatisfying the employees and managers. The barriers can be communication barrier, job security barrier etc. The job insecurity can be motivates employees and it will make the employee switch towards another job.

Manager B shared his view that:

"The barriers include employee experience or knowledge acquired by the employees because it results in job security".

Manager A believes that:

"The key culture and structure needs to be competitive and unique in order to attract more employees".

When the employees are provided with job security then they are motivated and committed towards the organisation, which results in effective organisational performance.

5.3.1.9. Technologies used by the Company

The various technologies and strategies help in focusing on knowledge management activities. The organisation can grow further if the internal system of organisation is strong and cooperative. The managers need to focus on internal system so that they can keep the employees on track. Moreover, the managers can train the employees through various technological tools and exchange the information. It will help in reducing the confusion and communicating in an effective way.

Manager A shares his view regarding *“the type of technologies used by the company that the electronic programs are used in his company in order to obtain the information exchanged tool between staff”*.

5.3.1.10. Using IT for KM

IT is one of the rising trends in KM. It supports the study of KM and promotes more information based on advance methods. In order to support the skills and performances of employees, IT can provide a major source in it. However, in these organisations, the support of IT is lesser because of inexperienced staff and lack of consideration towards knowledge process and mechanism.

The use of IT in these organisations is weaker, which needs to be in consideration of top management. However, these organisations are facing problems in using IT within the KM because of lack of equipments and improver facilities.

The response shared by one of the Manager A was that:

“The problems faced by the organisation in using IT for KM is firstly the weak infrastructure. The infrastructure development is weak and the investment done by top management towards IT for KM is inappropriate, which reduced the scope of KM”.

Manager B shared his views on the problems faced by the company in using IT for KM, which is:

“Incomplete and e-enabled programs within the company in the manner that enhance the role of knowledge management”.

Manager C shared his views that:

“Improper training given to employees that reduces the effectiveness of knowledge management within the organisation”.

5.3.1.11. Training held within the Company

In order to implement KM strategies and system within the organisation, it is essential to follow training process. Like, it is mention earlier that training is important in order to share knowledge and utilise it in effective manner. Training also helps in developing strong skills among employees. It also helps them in their career management.

Manager B responded that:

“Are there training centers and training programs but focus quantity, not quality”.

However, the response of Manager D towards training is that:

“Trainings are given to employees, but the level of training is not too high, which helps them to improve their KM skills. Employees are still under-performance, which means that effective training can help them to perform well”.

Manager E shared his views regarding training that:

“Training is essential for employee development and it also helps in integrating with KM. Effective trainee is able to learn knowledge quickly, which makes him competent. Trainings were held in the company, but unfortunately, the level of training was not up to the level of employees. These trainings were done just to fulfil organisational need.”

5.3.1.12. Training Objectives

The core objective of training is to educate employees and deliver essential knowledge to them, which can help them to perform their jobs and achieve better results. It also helps them to make decisions on their own without taking help of their bosses and supervisors.

Manager A mentioned that:

“Kind of formalities and not lead to the intended objectives in the strategic plan of the company”.

However, the response shared by Manager C regarding the objectives of the training was that:

“Training provides a vision to employees. Whatever training given to employees in the past was not effective that could help employees to overcome their weaknesses in their personal and professional lives.”

The other managers shared the same views as of Manager A, but they added further that their company held training sessions just to fulfil the formality and they believe that employee's own learning skills and capabilities makes them effective at their work, not training helps them to add value to their skills.

5.3.1.13. Resolving Issues

For companies, issues related to KM are more due to the performance and its management by the people within the organisation. Based on these issues, Manager A shared his views that:

“To resolve these issues, the management solved the problems in an orderly and used software to help solve problems e.g. system and Help Desk”.

Manager B shared his views regarding the resolution of problems related to KM that:

“The procedure followed to resolve the issues involves the hierarchical control and direction of decisions from top to down. We need to report the issues to the top management, and then they give instructions to us. This sometimes cases delay in solving problems quickly, but this is the procedure that we need to follow”.

Managers responded that procedures to resolve issues in KM are structural, which means that it involves a systematic process that is relatively easier for organisations once they start adopting KM practices. However, for those organisations that have not adopted KM practices require complex procedures to solve problems. KM also helps the company to adopt procedures through utilising software's. Using software's to solve problems is one of the IT based solution, which are advance method to deal with issues.

5.3.1.14. Contacting Network Members

To contact network members, company uses various methods. It includes the use of softwares, which connect members in shorter period. Moreover, the connection is easier based on the link of knowledge connected with all network members.

Manager A and C shared an interesting response on contacting with network members, which include:

“To contact with network members is important because it helps in sharing information right at first time. However, effective KM strategies and practices can help in contacting with

members easily through softwares. These softwares help in solving problems. It also reduces time efforts to communicate problems with others."

5.3.1.15. Issues related to Cost, Time and Motivation for Knowledge Sharing

The issues related to share knowledge are relatively lesser due to the efficiency of KM system. It requires relatively low cost and time, but the motivation needs to be high in order to share knowledge. It motivates managers due to the results that are obtained. Efficiency is the core benefit gained from knowledge sharing.

Manager A, C, D and E mentioned that there are no such issues related to the cost, time and motivation of knowledge sharing.

Manager B shared his views on issues related to these factors that:

"In knowledge sharing, the issues are most when one is not aware with the process of sharing knowledge and applying it. However, it can be managed when one is able to get proper training and knows how effectively knowledge can be shared".

5.3.1.16. Decision-making

The decision-making of an organisation is based on the level of knowledge and information one has. It is seen that decision-making is mostly done by top management because of their control and authority they have. In these organisations, the decision-making was previously positioned only towards top management, but with the changes in organisational control and administrative performances, those employees who have ample knowledge can take part actively in decision-making.

Based on this, Manager B responded that:

"In the previous time and with the administration value was difficult to involve staff or take their views but. With the new administration became possible in some things where Create a forum for the exchange of views between employees and senior management in the company".

Manager A and C shared his response on decision-making that:

"Decision-making should be entirely the responsibility of top management. Decentralised control within the organisation may affect the knowledge sharing and quality".

Manager D shared his response that:

"Decision-making needs to be centralised and should not involve employees".

Whereas, the response of manager E was different. He mentioned that:

“Decision-making should be the responsibility of middle-line and front-line because there are some decisions that are needed to be taken by them. Moreover, sharing of information becomes more strong and clear when everyone contributes equally. This also helps in network building”.

5.3.1.17. Valuing Employee's Opinions

For the successful performances and achievements of objectives, it is essential to value employee decisions and opinions. It boosts the confidence in them and motivates to perform well. The manager A mentioned that:

“In current system, the value is given to employees opinions, whereas in previous system, their opinions were not valued”.

Manager B and C responded that:

“Employee opinions are valued in the company, but the ultimate decision is always of top management”.

Manager D and E responded that:

“Company does value employee opinions”.

5.3.1.18. Mechanism for Retiring Employees

For any organisation, it is important to follow mechanism for retiring employees. Based on this Manager A responded that:

“No storage of information when the employee retires. Company to lose all know when he leaves”.

Manager B, C and D shared his responded that:

“Thou, the company should protect the data of retired employees, but my organisation do not preserve the data of retired employees”.

Manager E mentioned that:

“My organisation follows mechanism to save the data of retiring employees”.

5.3.1.19. Social Issues

The issues that are needed to be address by the organisation include the basic needs of employees. All the respondents mentioned that:

“Psychological and financial problems and other family-related problems are the most important issues that an organisation needs to address quickly because if employee needs are fulfilled, then it motivates them to perform well”.

5.3.1.20. Effectiveness and Efficiency of Organisation based on Addressing Social Issues

Manager A responded on effective addressing of social issues of employees that:

“Yes, understand the company helps to solve problems and this is reflected positively on the job performance and employee satisfaction”.

Other managers replied that:

“It is really essential to address social problems of employees because it helps organisations to improve their performances effectively. It also motivates them at workplace and encourages them to achieve goals on time”.

5.3.2. Conclusion of Interview

The answers and views of specific managers were selected in order to provide analysis. In concluding the analysis, it is identified that knowledge management results in positive relationship with informal culture. The managers need to adopt that culture that is suitable according to the employee's skills and abilities. The managers can make the internal operations effective through empowering the employees. The managers need to encourage employee on the accomplishment of the task because it will help in motivating the employees. In this way, the employee share knowledge with their colleagues and communicate openly and freely. The flow of knowledge management helps in making decisions through logical and rational understanding. The employees enhance their skills and capabilities and they work towards accomplishing organisational success.

The authority of decision-making given to employees help in making them proactive. In this way, the employees can easily work in the absence of managers. The strict control and supervision can threaten the employees and they can build fear of losing the job. The managers can gain the employee trust through adopting an flexible organisational culture. When the employees are empowered and are allowed to move freely then they get satisfied towards the job and increase their interest towards work.

CHAPTER SIX: DISCUSSION

6.1. Introduction

Chapter 5 presented the results of the quantitative and qualitative analysis in detail. Chapter 6 presents the discussion, interpretations and findings based on chapter 5. Based on the results, it is identified that the relationship between knowledge management and culture, structure and strategies is insignificant, which means that in the near future, researchers can explore the research and study it with various other variables. It further elaborated that the responses gathered from the participants was based entirely on their point of view. Moreover, from the analysis, it was also identified that respondents are not satisfied with the system of the organisation because there are lesser chances for them to grow and expand their knowledge capabilities. The organisation does not fulfil their basic learning needs.

The analysis also revealed that most of the participants are willing to learn effective knowledge management skills, which can help them to improve their organisational experience. Similarly, the organisation needs to understand how important for them employee knowledge is in order to improve their working capabilities, profitability and growth.

The chapter of discussion explains will help in elaborating the explanation of the analysis and its link to the literature of the research. The literature will help in supporting each statement and hypothesis by sharing more knowledge regarding it. This chapter will also share a further link of qualitative analysis to the literature review. It will help non-expert readers to understand the whole concept of the research and the validity factors of it.

This chapter is divided into two major parts. The first part discusses the quantitative analysis along with its link to the hypothesis and the second part discusses the qualitative analysis. The research summary is presented in the conclusion.

6.2. Results of the Hypotheses in direct relation to the Case Study with the three Saudi telecommunications companies (STC, Mobily, Zaen)

Table 3.4 in Chapter 3 presented the Research Hypotheses Designed to Study Telecommunication Industry of Saudi Arabia and the Gulf States. The following table presents whether the hypotheses proposed are supported in relation to the three telecommunication Saudi telecommunication companies (STC, Mobily and Zaen).

	Research Hypothesis	Results
H ₁	There will be a positive relationship between organisational culture and KM of the organisation.	Unsupportive
H _{1a}	As part of organisational culture, there will be a positive relationship between formal and informal ways and KM of the organisation.	Supportive
H _{1b}	As part of organisational culture, there will be a positive relationship between control and KM of the organisation.	Unsupportive
H _{1c}	As part of organisational culture, there will be a positive relationship between authority and KM of the organisation.	Unsupportive
H _{1d}	As part of organisational culture, there will be a positive relationship between open culture and KM of the organisation.	Unsupportive
H _{1e}	As part of organisational culture, there will be a positive relationship between information sharing and KM of the organisation.	Unsupportive
H ₂	There will be a positive relationship between organisational structure and KM of the organisation.	Unsupportive
H _{2a}	As part of organisational structure, there will be a positive relationship between workflow and KM of the organisation.	Unsupportive
H _{2b}	As part of organisational structure, there will be a positive relationship between tacit knowledge and KM of the organisation.	Unsupportive
H _{2c}	As part of organisational structure, there will be a positive relationship between explicit knowledge and KM of the organisation.	Unsupportive
H ₃	There will be a positive relationship between KM strategies and KM of the organisation.	Supportive
H _{3a}	As part of KM strategies, there will be a positive relationship between codification and KM of the organisation.	Supportive
H _{3b}	As part of KM strategies, there will be a positive relationship between KM process and mechanisms and KM of the organisation.	Unsupportive
H _{3c}	As part of KM strategies, there will be a positive relationship between explicit knowledge and KM of the organisation.	Supportive

H _{3d}	As part of KM strategies, there will be a positive relationship between knowledge sharing (KS) and KM of the organisation.	Supportive
H _{3e}	As part of KM strategies, there will be a positive relationship between information technology (IT) and KM of the organisation.	Unsupportive
H _{3f}	As part of KM strategies, there will be a positive relationship between mentoring and KM of the organisation.	Supportive
H ₄	There will be a positive relationship between KM tools and mechanisms and KM of the organisation.	Supportive
H _{4a}	As part of KM tools and mechanisms, there is a positive relationship between quality management in and KM of the organisation.	Supportive
H _{4b}	As part of KM tools and mechanisms, there is a positive relationship between organisational improvement and KM of the organisation.	Supportive

Table 6.1: Hypotheses

6.3. Discussion of Quantitative Research

6.3.1. Discussion of Demographic Information

6.3.1.1. Number of Participants from each Organisation

The overall analysis revealed that the majority of the participants who contributed in the data collection were from Zaen. Their contribution level in the data collection helped a lot because these respondents were more active throughout the data collection. They were more responsive and shared many details that helped a lot to summarise the research. The employees who contributed from Zaen were 35.9%, whereas the employees Mobaily were 34.6% and STC were 29.6%. Although, this had been discussed in the previous chapter, but the reason to discuss it again is to share the number of participants. Based on the percentages, it is identified that the participants whose data contributed in analysis and with no error was of 379 respondents.

Company		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STC	112	29.6	29.6	29.6
	Mobaily	131	34.6	34.6	64.1
	Zaen	136	35.9	35.9	100.0
	Total	379	100.0	100.0	

Table 6.2 Company Participants

The above table illustrates that the participants who contributed in data collection were 112 employees, the participants of Mobaily were 131 and employees of Zaen were 136. It means that the employees of Zaen were relatively more than Mobaily.

KM Status in the Organisations:

The analysis also revealed the status of KM in these three companies.

KM Status		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not in existence at all	50	13.2	13.2	13.2
	Nascent stage	100	26.4	26.4	39.6
	Introduction stage	165	43.5	43.5	83.1
	Growth stage	64	16.9	16.9	100.0
	Total	379	100.0	100.0	

Table 6.3- KM Status

From the above table, it is revealed that the status is on introductory stage. It still means that organisations have the scope to expand more and enhance their working capabilities. Moreover, the literature also mentioned that most of the organisations are at introductory stage, which means that they have long scope to perform better by adding value through well-

developed skills and expertise. On the other hand, some respondents mention that KM strategies and practices do not at all exist within their system.

KM Recognition in the Organisations:

KM Recognition				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid yes	117	30.9	30.9	30.9
No	194	51.2	51.2	82.1
Cannot say	68	17.9	17.9	100.0
Total	379	100.0	100.0	

Table 6.4- KM Recognition

From the analysis, it was revealed that within these organisations, the recognition of KM is more, but it is not in practice. It means the employees and executives are aware of specific benefit of KM, but there are no such strategies developed regarding KM. Moreover, it is previously discussed in the literature that KM is one of the widely growing tools within corporate culture, but still its concept is new to many companies. However, they avoid practicing it because of the investment requirement.

K M Issues within the Organisations:

K M Issues				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Lack of knowledge and information	45	11.9	11.9	11.9
lack of knowledge management	169	44.6	44.6	56.5
Information overload	47	12.4	12.4	68.9
Loss of crucial knowledge due to a key employee leaving the organisation	64	16.9	16.9	85.8
Lack of use of IT for the purpose of knowledge management	54	14.2	14.2	100.0
Total	379	100.0	100.0	

Table 6.5- KM Issues

Issues that are commonly faced by organisations to implement KM strategies includes following issues:

- Lack of sharing knowledge and gathering relevant information,
- Weak focus of management towards KM,
- Mismanagement of information,
- Less focus towards preservation of important knowledge,
- Lack of focus towards IT and its contribution in KM,

Besides these issues, the following are the other issues that are commonly witnessed within the organisation. These issues include:

- Lack of interest of employees to learn new skills and gaining more experiences,
- Management concern towards generating more revenue and lack of investment in employee development and organisational performances,
- Lack of resource availability related to KM skills and expertise.

KM Understanding within these Organisations:

KM understanding				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Never heard of it	57	15.0	15.0	15.0
Something they are already doing but not under the same name	55	14.5	14.5	29.6
It is just a management fad	44	11.6	11.6	41.2
It is strategic part of their business	53	14.0	14.0	55.1
Something that could be beneficial for the organisation	71	18.7	18.7	73.9
Something that can bring long term competitive advantage to the company	99	26.1	26.1	100.0
Total	379	100.0	100.0	

Table 6.6- KM Understanding

The above table, which was previously discussed in analysis focused on percentage responses, but in this chapter, it focuses on its descriptive information. The employees of Zaen, Mobaily and STC mentioned that KM is said to be that strategy or tool, which helps in improving the organisational expertise and increase the competitive advantage of the

organisation. It also revealed that some respondents that are not familiar with the concept of KM. However, based on the secondary information gathered and shared in the literature, it is identified that for organisations, it is important to direct their focus towards KM because in upcoming years, there will be a tremendous shift seen within the organisations where every organisation will start adopting KM strategies.

6.3.2. Discussion of Descriptive Frequencies

H₁: There will be a positive relationship between organisational culture and KM of the organisation.

H_{1a}: As part of organisational culture, there will be a positive relationship between formal and informal ways and KM of the organisation.

Contact between employees

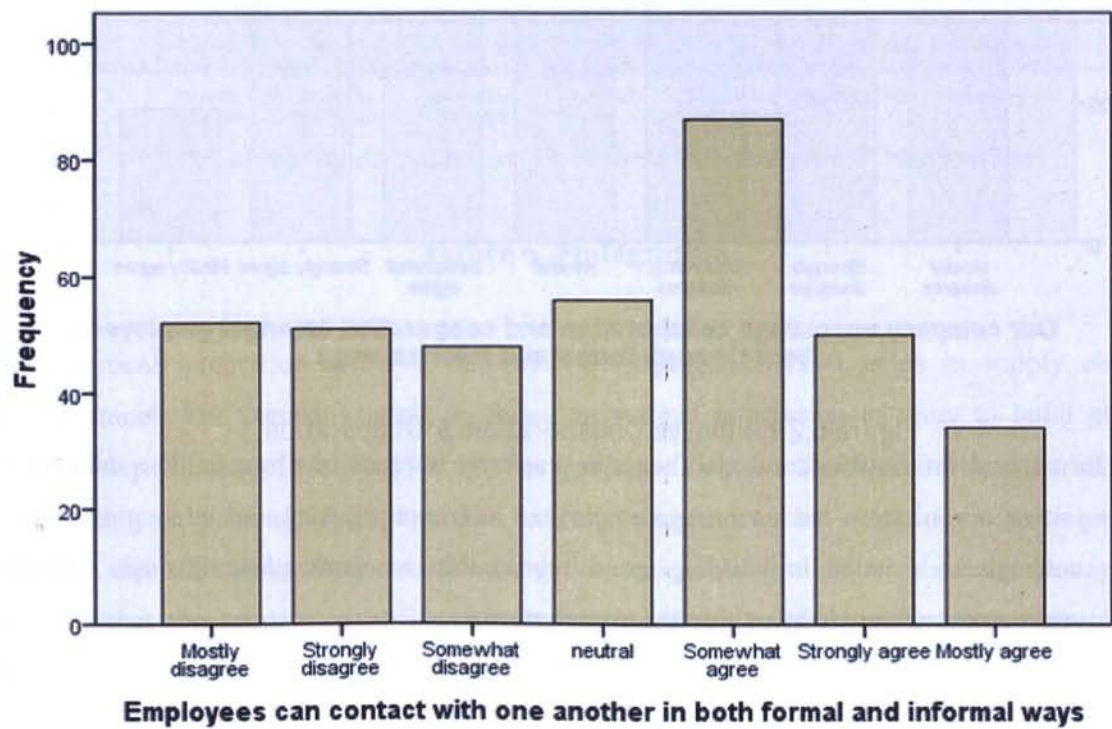


Figure 6.1: Employees Formal & Informal Contact Ways

This hypothesis shows the relationship between formal and informational culture of the organisation that helps in KM activities. The organisational culture is the most important factor in the success of the organisation. It helps an organisation in managing their internal operations and directing the behaviour of employees towards work. Therefore, when the

culture of the organisation is formal and rigid then the employees are not able to contribute in work more effectively. The employees work under the pressure and they do not take keen interest in the work. Therefore, the company needs to provide the participative organisational culture through which they can keep their employees engaged in work.

Collaboration and cooperation among employees

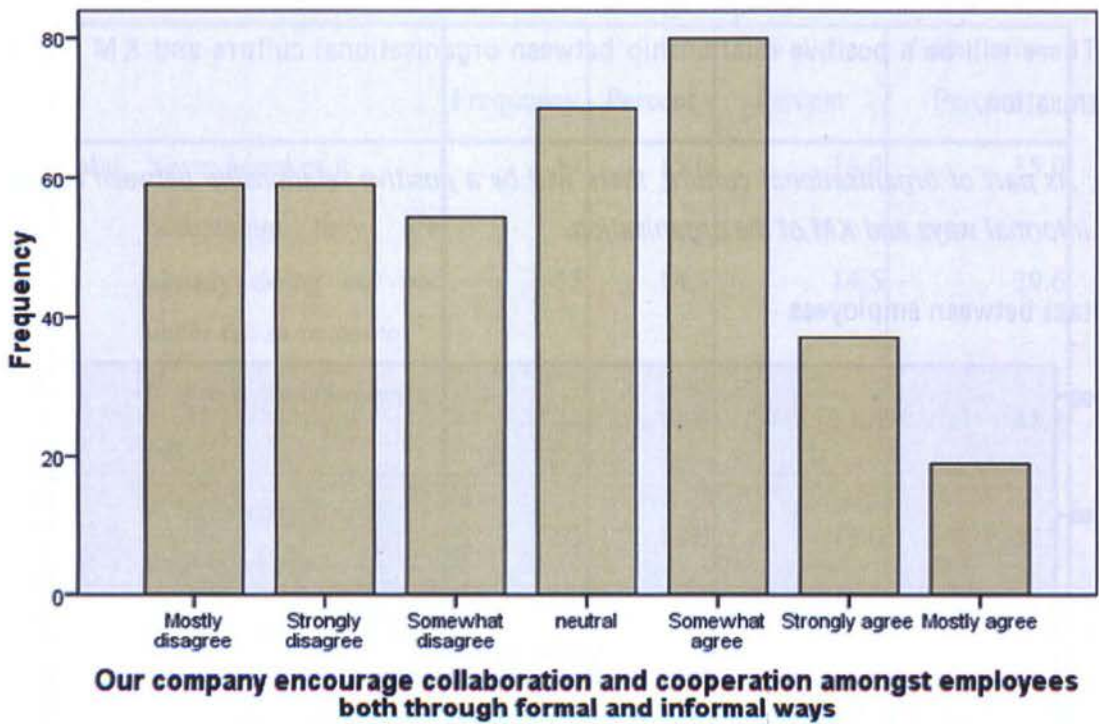


Figure 6.2 Employee Collaboration & Cooperation

The formal and informal cultural also helps in employee support or obstacle. The informal culture of an organisation can encourage employees in communicating and interacting with other colleagues. It helps in building good relationship at work place through which employees can share knowledge within the organisation.

Vertical Integration

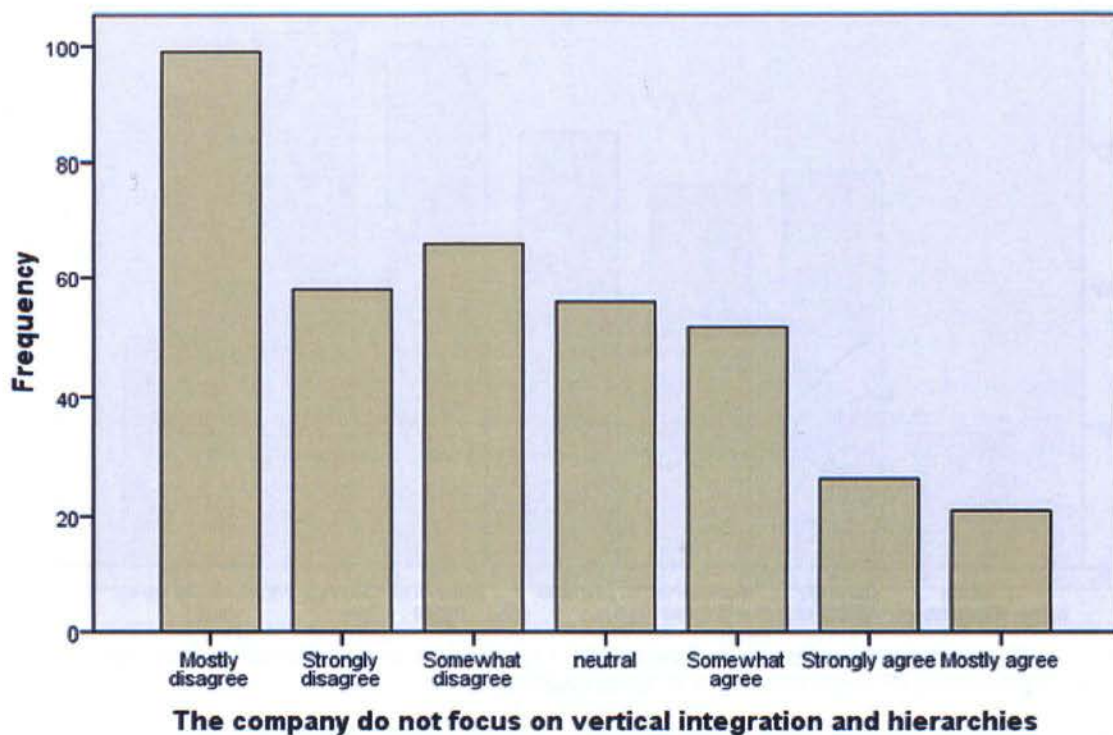


Figure 6.3 Integration

The vertical integration refers to the style of management that helps in supply chain management. The company needs to focus on vertical integration in order to build good relationship with suppliers. The Knowledge sharing is also successful when the organisation is focusing on vertical integration. The analysis also review that most of the participants believe that their organisation is focusing on vertical integration because the managers believe that the success of an organisation is based on building good relationship with employees, customers, suppliers and stakeholders.

Horizontal Integration

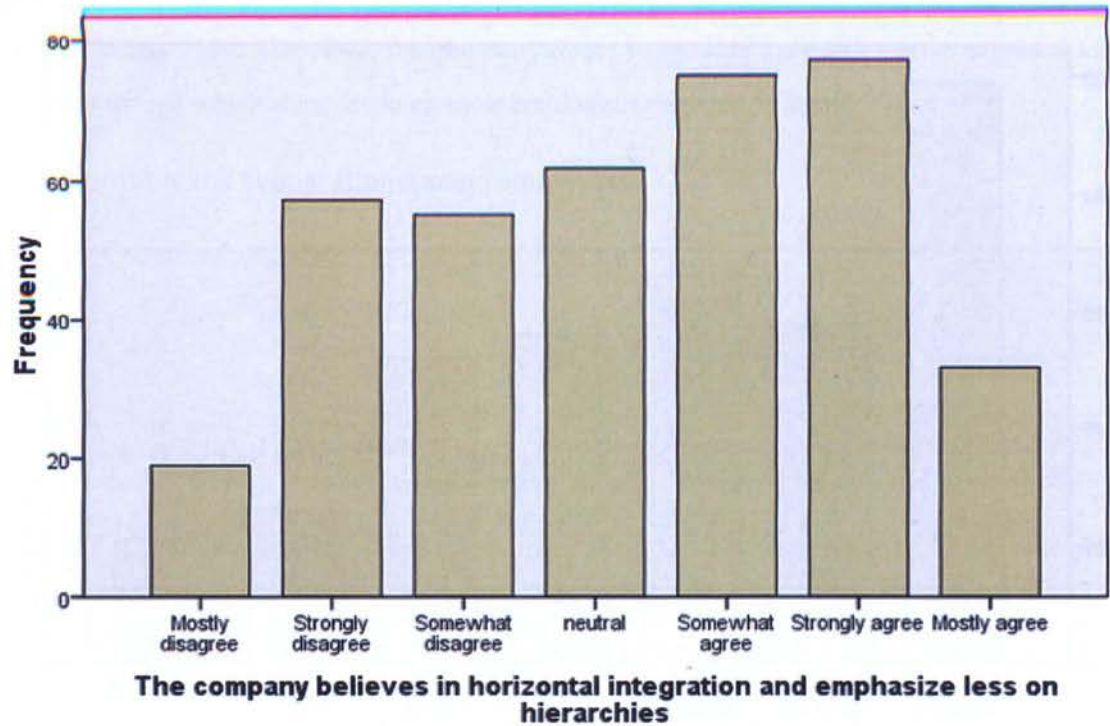


Figure 6.4 Horizontal Integration

The horizontal integration helps in controlling and focusing on benefits. In the analysis, it was gathered that in the horizontal integration the company is not focusing much on hierarchies because the focus on the company is to maximise the profit and satisfy the employee and customers to make the business stable. The majority of participants believe that the horizontal integration is the most important tool to make the company successful. The employees can also freely communicate with the managers and share their ideas and knowledge. In this way, the company develops ideas and creates the customer demanding products. This hypothesis supports the literature review as well because it supports the basic aim of research.

Value and encouragement to employee opinion

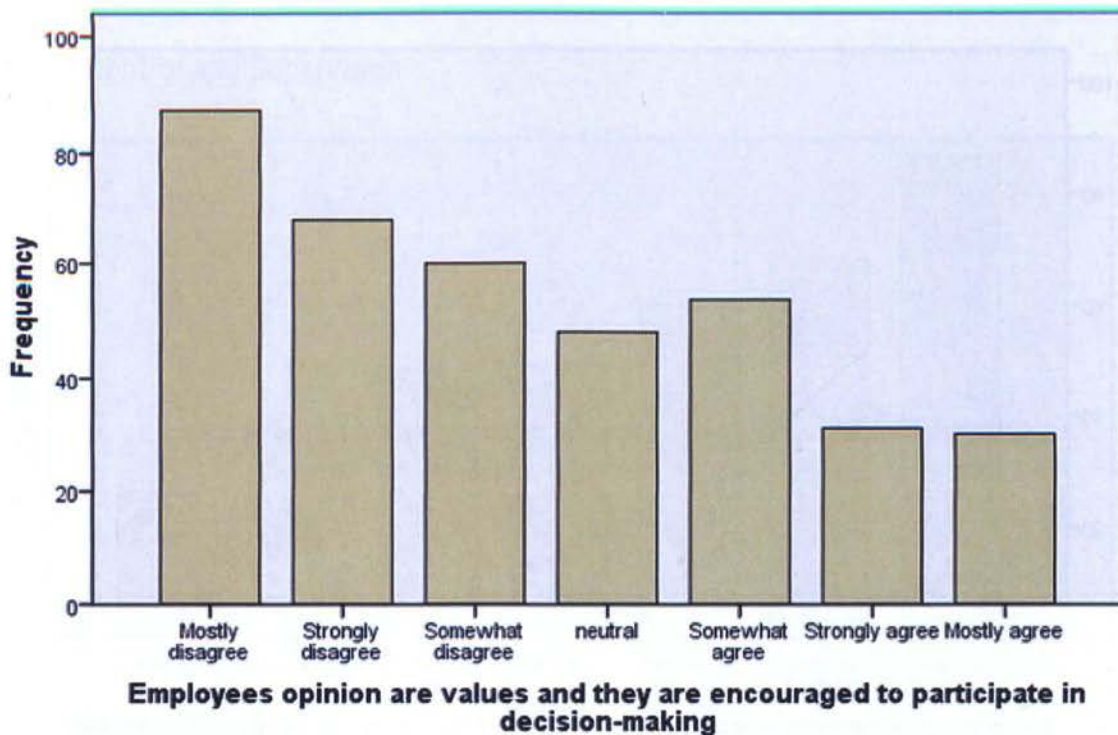


Figure 6.5 Employee Opinion

This hypothesis related to the employee opinion and their interest towards discussion. In the analysis, it was interpreted that the majority of participants was not satisfied from the organisation because in their organisation the employees were not encouraged. Moreover, the employees were not given authority to make decisions. In this way, the employees were unable to share the knowledge in the organisation and they were not participating in any issue or solutions. Therefore, the organisations need to provide opportunities to employees to make a decision so that they can work independently in the absence of managers.

Liberty to employees for finding solutions

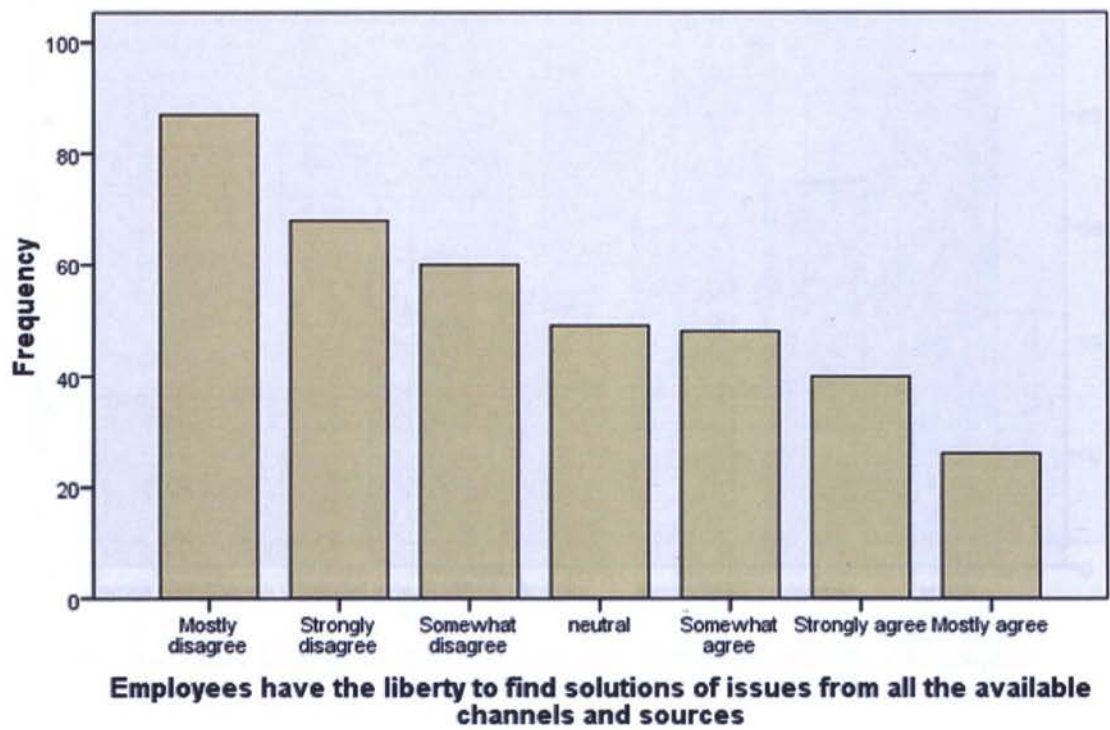


Figure 6.6 Employee Liberty

This chart illustrates the liberty given to employees in order to find solutions for issues or problem. In the analysis majority of participants, mostly the participants did not agree with the statement because the company was not giving them authority to find a solution by themselves. They cannot find the solution from available chancels and they need to follow that solution that is given by managers. In the literature, it is discussed that the employee satisfaction and commitment is based on authority given to them. Therefore, the managers need to ask employees to find solutions of various problems. In this way, employees will have trust on managers and they will take part in their job.

H1b: As part of organisational culture, there will be a positive relationship between control and KM of the organisation

Strict Control and Supervision

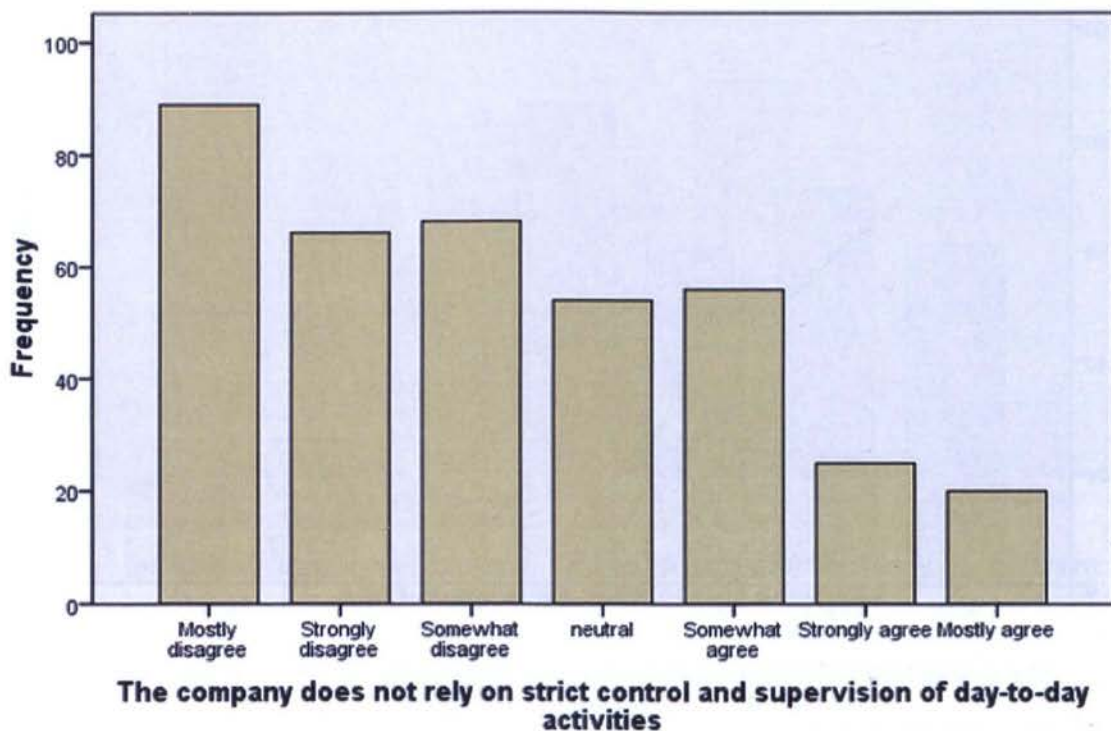


Figure 6.7 Control & Supervision

In the literature, it was discussed that the strict control and supervision can threaten the employees because they might have a fear of managers. Therefore, the organisation needs to become flexible and allow employees to do work how they want to do. The flexible approaches will help the organisation in maintaining the employee's performance and gaining their trust. Moreover, the employees will also share the new ideas and knowledge with other colleagues and it will result in increasing the IQ of employees. When employees are not allowed to move freely in an organisation, then they lose their interest and it results in poor performance.

H1_c: As part of organisational culture, there will be a positive relationship between authority and KM of the organisation

Prevailing believe about K M

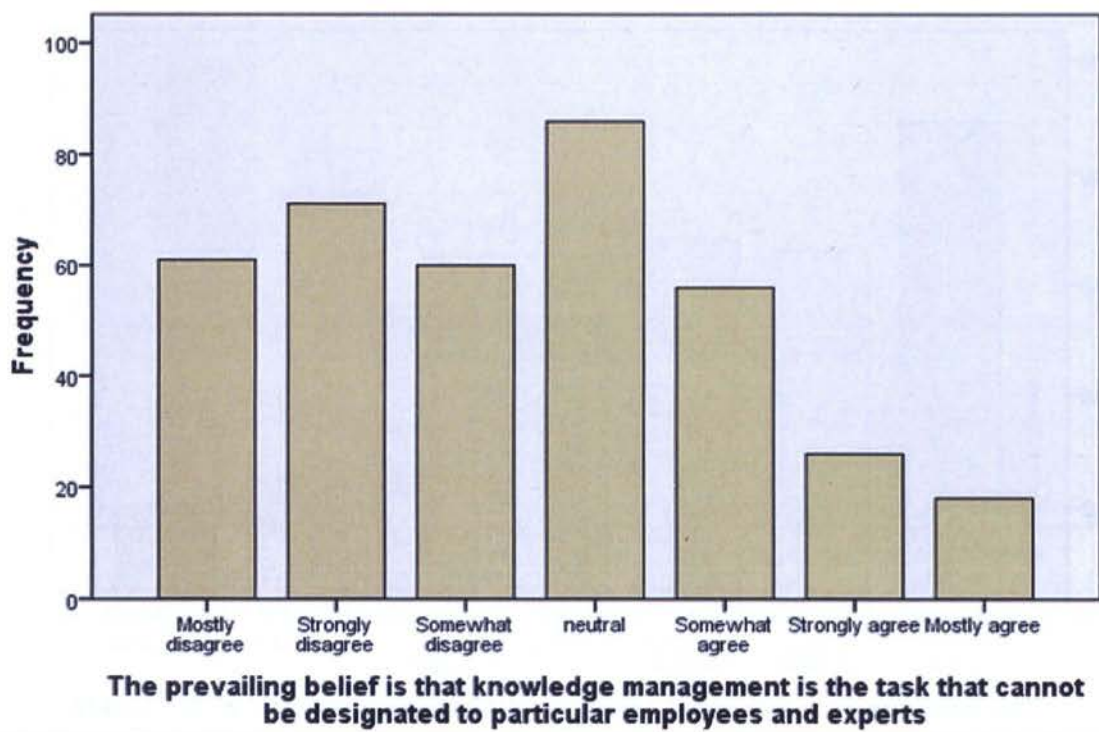


Figure 6.8: Prevailing Beliefs

Knowledge management is not any title that is given to one person only. The knowledge sharing can be done by any employee working in the organisation. The employees can share knowledge with each other through communicating and interacting with colleagues at work place. In the analysis, it is explored that most of the participants believe that the one individual who is the employees in an organisation can gain the title that he/she shares the knowledge but it is not permanent. If other employees share knowledge then they will also help in enhancing the knowledge of other employees, which is benefiting from all the employees.

Encouragement of employees in giving opinions



Figure 6.9: Employee Encouragement

The opinion of employees is the essential tools to keep them engage in the work. The self-directed employees are able to work in challenging situations and without managers. The managers need to allow employees to make decisions and give their opinion. In this way, the employees will share various ideas and knowledge that can help them in innovating new techniques. The majority of employees feel motivated in sharing knowledge and guiding other colleagues. They also act as a leader in the team and they enhance their skills through sharing knowledge. The team building and group task can also empower employees to share opinions. However, few employees who are introvert might face certain challenges in cooperating with others and communicating inside the organisation.

Employees are not forced to refer others

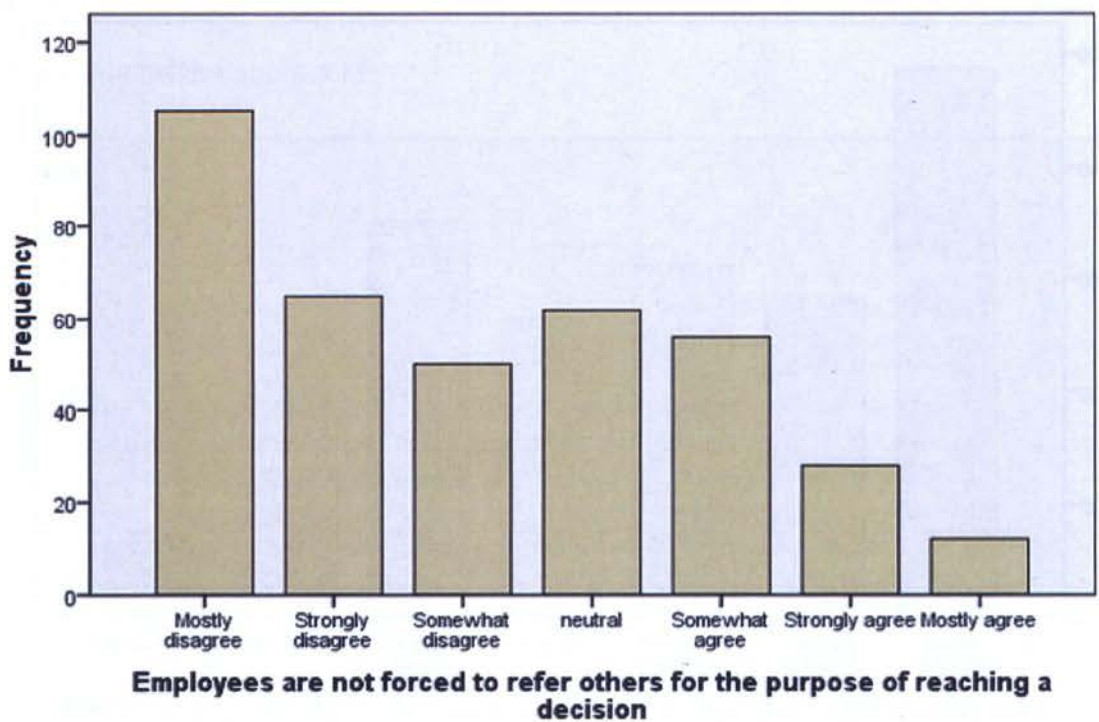


Figure 6.10 Referring Employees

The employees were not given self- independence to work on their own. Therefore, the decision-making was on in the authority of the managers and they were making the decisions on behalf of employees. In literature, it was studied that those organisations who are allowing employees to take decision helps in making rational and logical decision. The employees of that organisation become more logical and they learn how making a decision. In the analysis, most of the employees believe that their organisation was not allowing them to make the decision by themselves. In this way, the employees have to refer others to reach towards any decision.

Consulting seniors to make decision

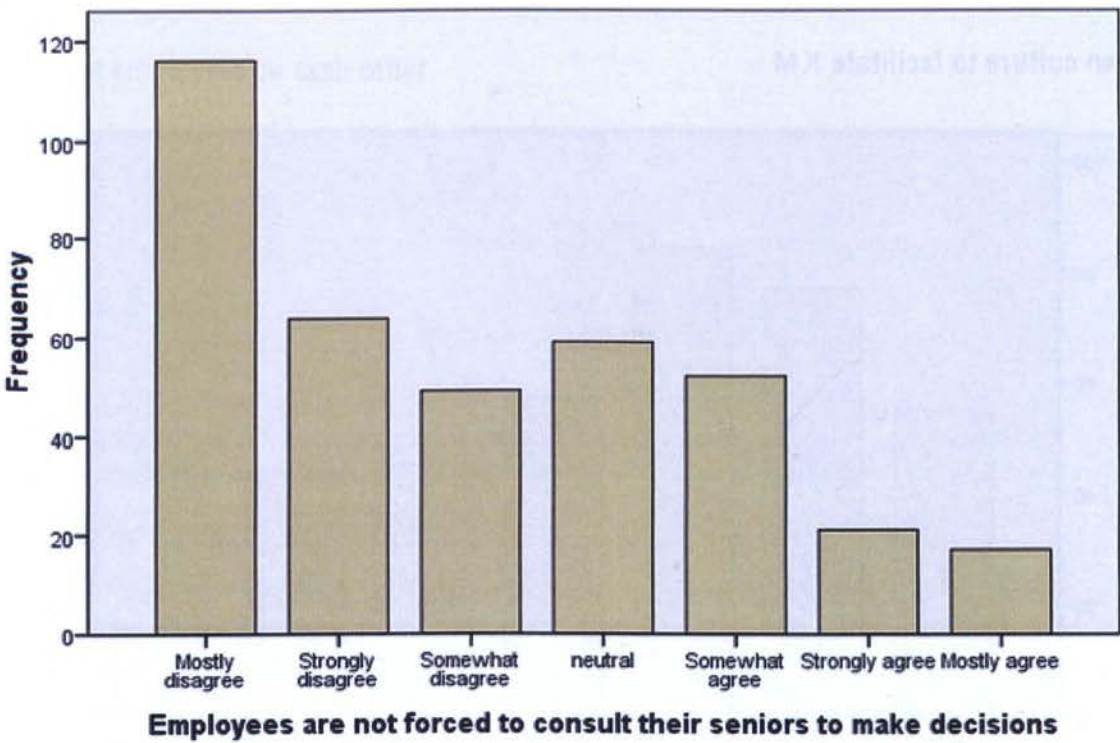


Figure 6.11: Consulting Seniors

The consulting top managers can help employees in making the correct and accurate decision. However, the employee willingness to consult managers for decision is based on their own nature. The employees can make a decision and ask managers that if it is right or wrong. In this way, the employees will learn and they can enhance their decision-making skills. In the analysis, it was gathered that most of the employees were forced to consult the managers, which were de-motivating them. The forceful act was making them unable to make any decision. Therefore, the behaviour of managers needs to be friendly so that employees can work according to their own willingness.

H1_d: As part of organisational culture, there will be a positive relationship between open culture and KM of the organisation

Open culture to facilitate KM

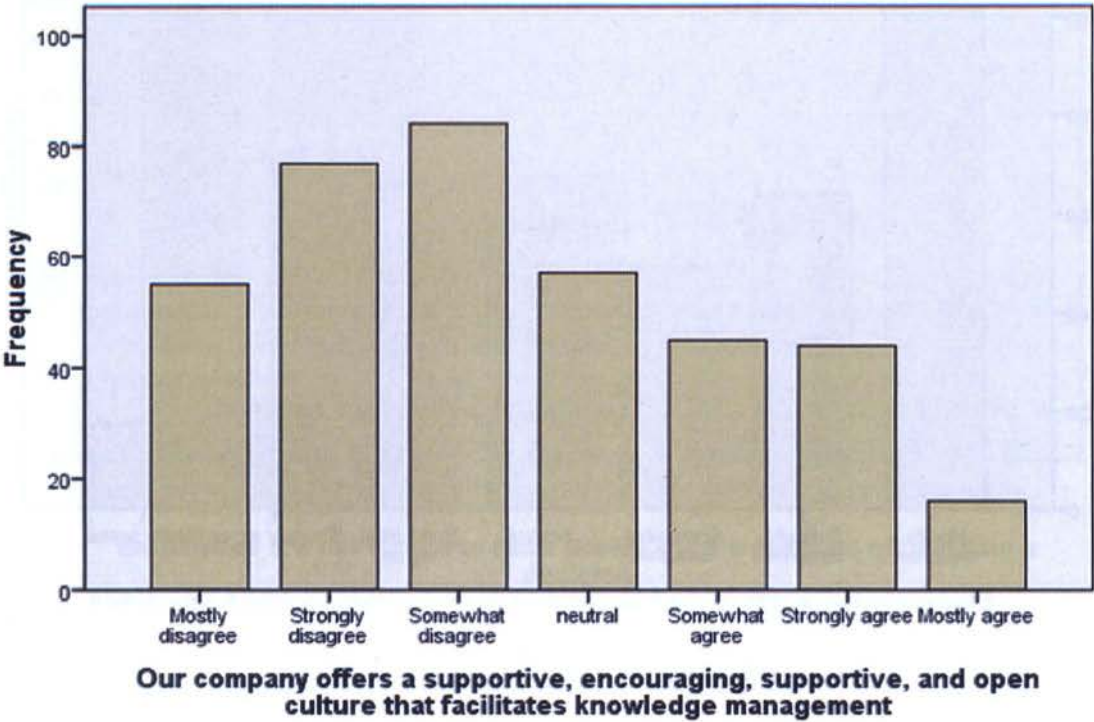


Figure 6.12: Culture & KM

The supportive culture of organisation helps in gaining employee commitment. When the culture of the organisation is cooperative and supportive then the employees take part in the work. Moreover, the employees also get motivated and encourage when the managers are offering various programs that are related to employee engagement. Moreover, the employees also learn future skills through various training and development programs. The open and informal culture helps in making the employees comfortable at the workplace. It helps them in maintaining the performance and they take part in various activities. Moreover, the managers can also facilitate employee by offering various events, and social dinners. It will help employees in interacting with managers and discuss various issues. However, in the analysis it was identified that most of the participants were disagreeing because their organisation was not supporting the Knowledge management activities because their organisational culture was too rigid and formal. In this way, the knowledge sharing was not

possible in the organisation and due to which the organisation was lacking the creative employees.

Trust of employees on each other

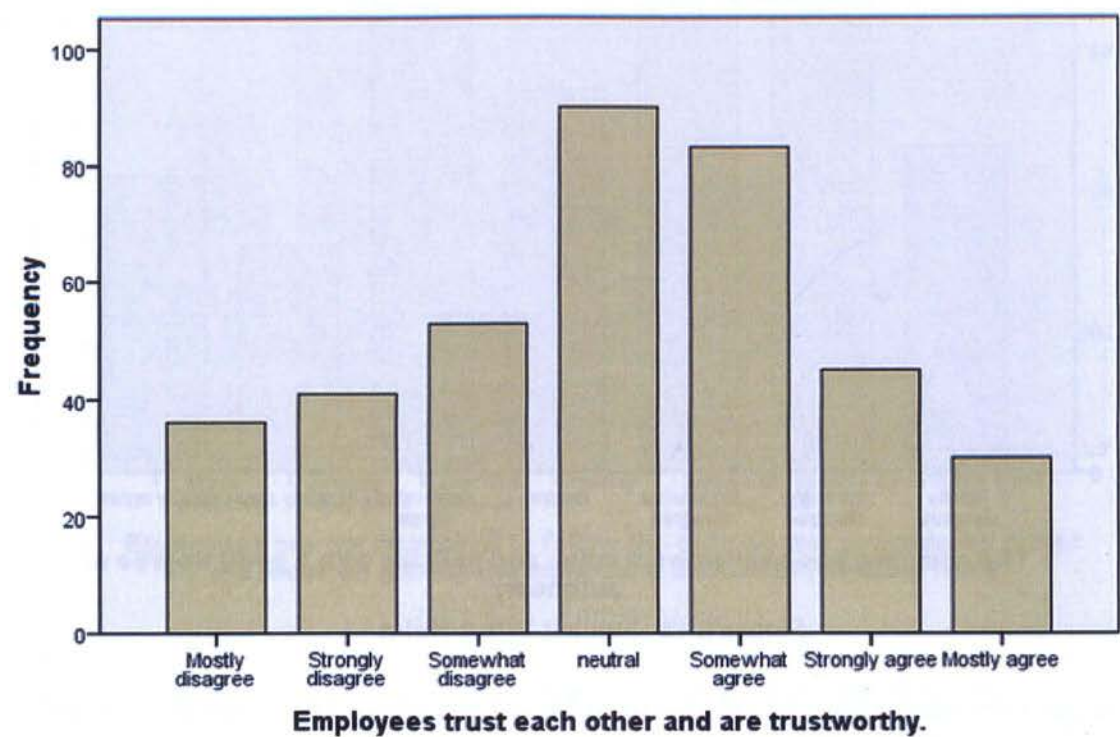


Figure 6.13: Employee Trust

The trust and commitment helps in building good relationship at work. The employees can gain the trust of each other through cooperating and helping colleagues. The managers can make the employees proactive through enhancing teamwork. Moreover, the compensations and benefit also help in trusting the managers and the employees work together to achieve mutual goals. The care of mangers can help in building long-term relationship with employees. In this way, the employees do not leave their job because they are recognized inside the organisation and they are receiving what they actually expect from the organisation. Moreover, they also share positive views about their organisation with friends and family. In this way, the organisation gains the employee trust and commitment. In this analysis, it was studied that most of the employees were not able to maintain the trust because they were not getting the job security. The employees were in the fear that can fire from the job at any stage.

Explicit work rules and policies with good degree of autonomy

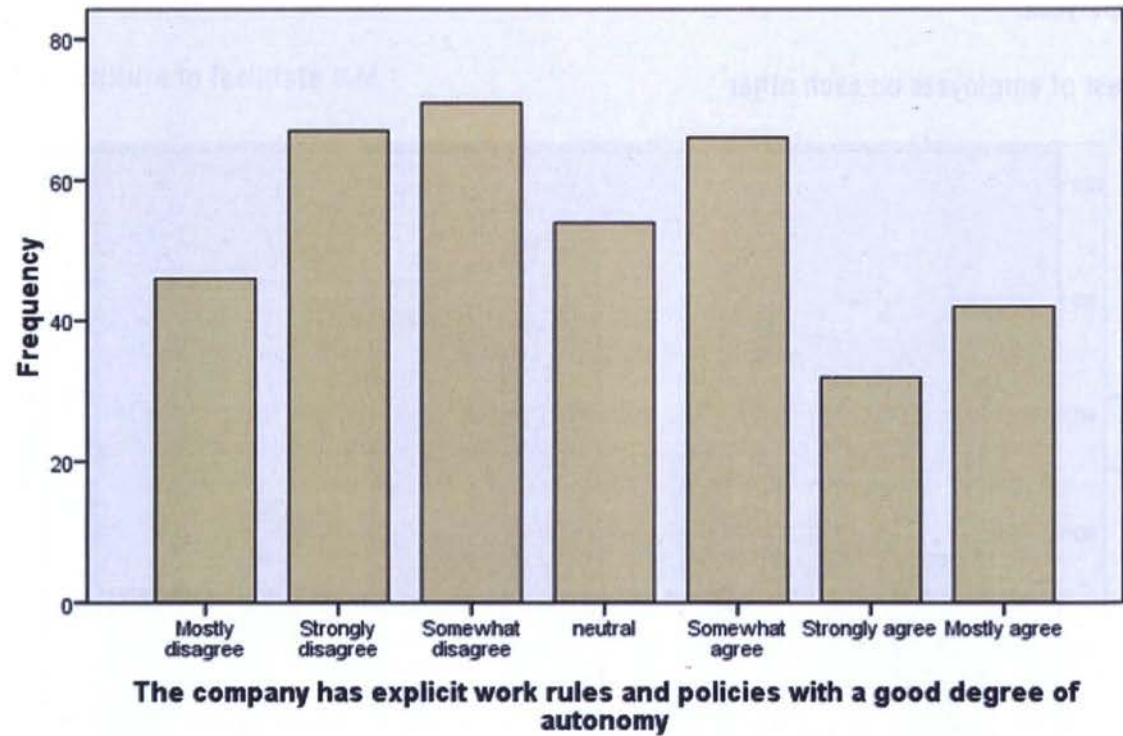


Figure 6.14: Explicit Work Rules

The explicit knowledge helps in adopting the rules and procedure of the company. The well-defined rules and procedures make the employees clear about company strategies. The managers need to design the clear and simple strategies in order to provide a flexible platform to employees for work. Moreover, the explicit working rules provide a good degree of self-sufficiency through which employee can manage their working behaviour. The freedom given to employees makes them in making decisions. In the analysis it was identified that the company was not giving authority to employees to communicate with top-managers in this way, the employees were getting de-motivated. The employees were feeling that the organisation is not much concern towards them.

Focusing on work instead of following rules

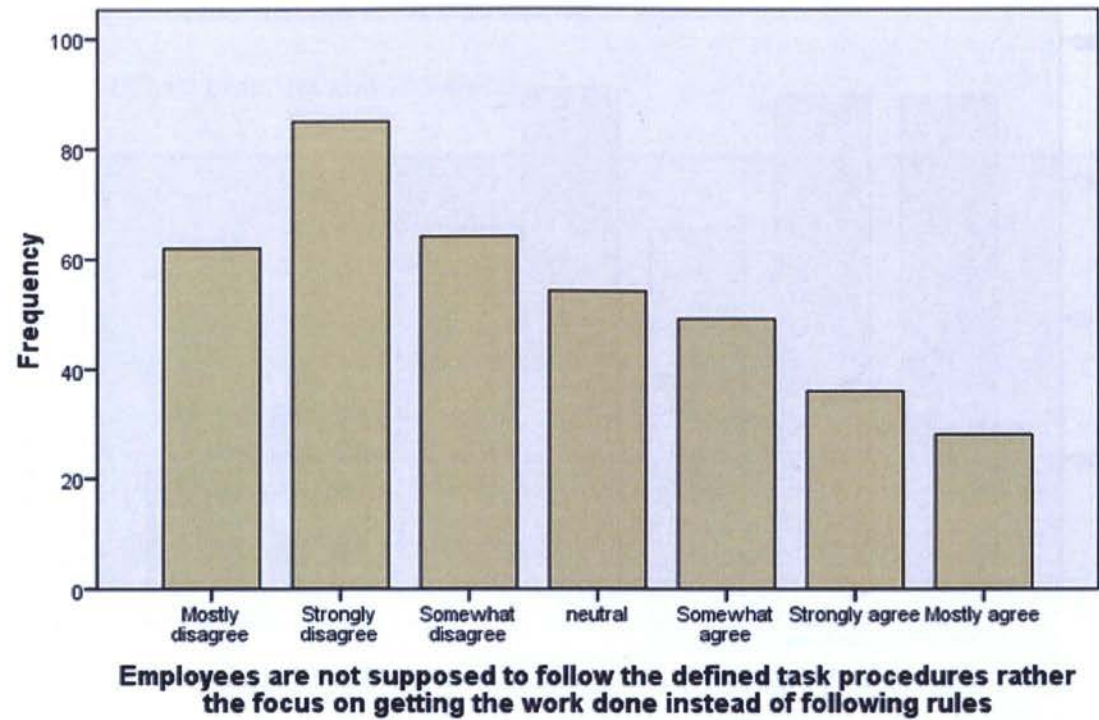


Figure 6.15: Employee Focus

The employee freedom plays important role in accomplishing the task. The rules and procedures are also important to follow but the focus of management needs to be on the accomplishment of tasks. In the literature, it was studied that those organisations that are focused on flexibility and well-defined procedures are making the employees able to accomplish the task easily. In this way, the proper planning and strategies are helping the employees to keep themselves on track. In the analysis, it was identified that the majority of employees were disagreeing because their organisation was making them strictly follow the rules and procedures that were confusing them at some stages.

Top management is helpful

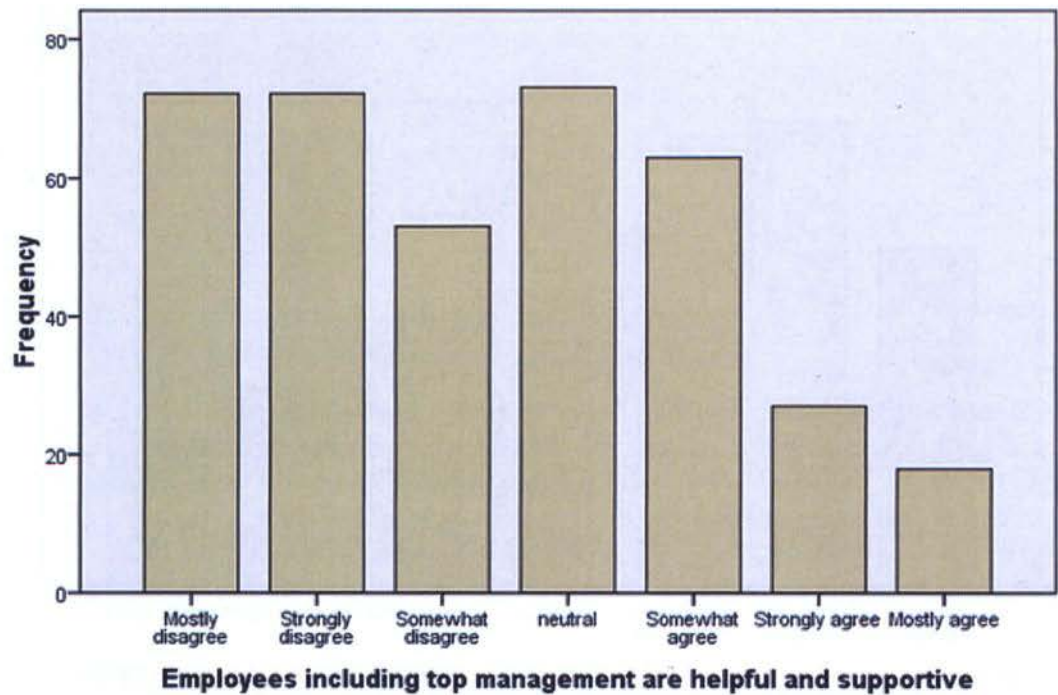


Figure 6.16: Employee Helpfulness

The supportive and helpful top management results in motivating the employees. Moreover, employees build the trust when top managers are helping them in various tasks. In the analysis, it was gathered that most of the participants believe that their top managers were not helping them and supporting them due to which employees were facing difficulties in performing their job.

H1_e: As part of organisational culture, there will be a positive relationship between information sharing and KM of the organisation

Sharing of best practices and knowledge

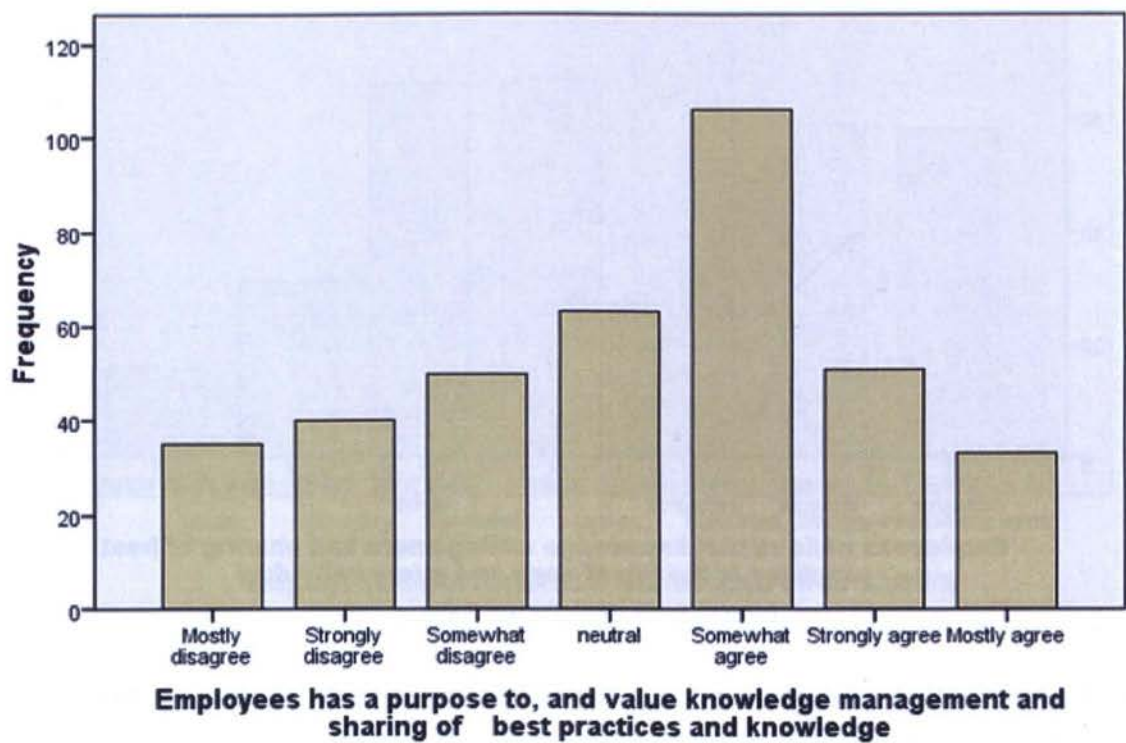


Figure 6.17: Employee Sharing

The knowledge sharing refers to the exchange of knowledge in the organisation. The employee share their ideas and views with colleagues in order to maintain the internal culture of the organisation. The employee needs to share various knowledge and practices with other colleagues. In this way, those employees that are facing difficulties at the workplace might solve it and learn more skills. In the analysis, it was recognised that most of the employees were strongly agreed because they have a purpose to share knowledge with other employees in order to maintain the integrity in the organisation. The employees also believe that knowledge sharing also enhances their intellectual skills and it helps in learning creative skills for future benefits.

Sharing of K M is the job of every individual

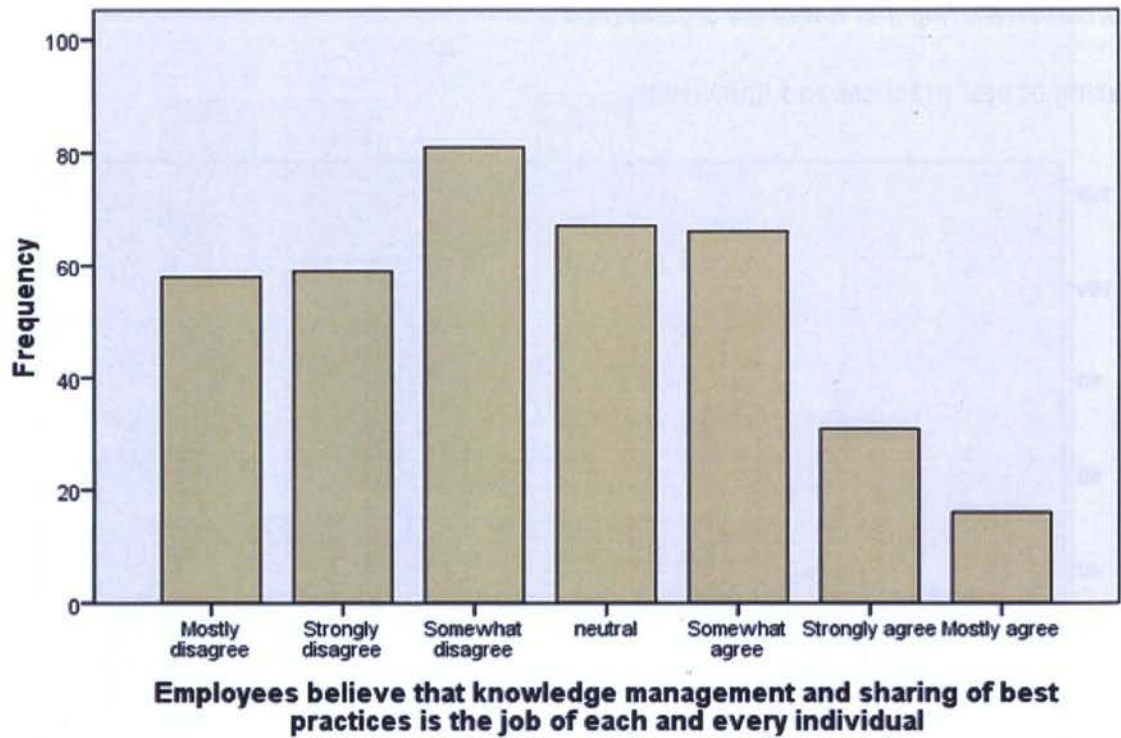


Figure 6.18: Employee Beliefs

The employees believe that the knowledge management helps in sharing best practices. The employees need to share their views with others in order to provide a learning platform. The managers can motivate employees and empower them for sharing the knowledge. In today's world, the innovative and creative ideas help in gaining the competitive edge. Therefore, the organisations need to allow employees to share the best practices in order to maintain the internal operations of the company. In the analysis, the majority of participants were agreeing that the knowledge sharing plays essential role in making the employees accountable.

Faith of Employees on each other

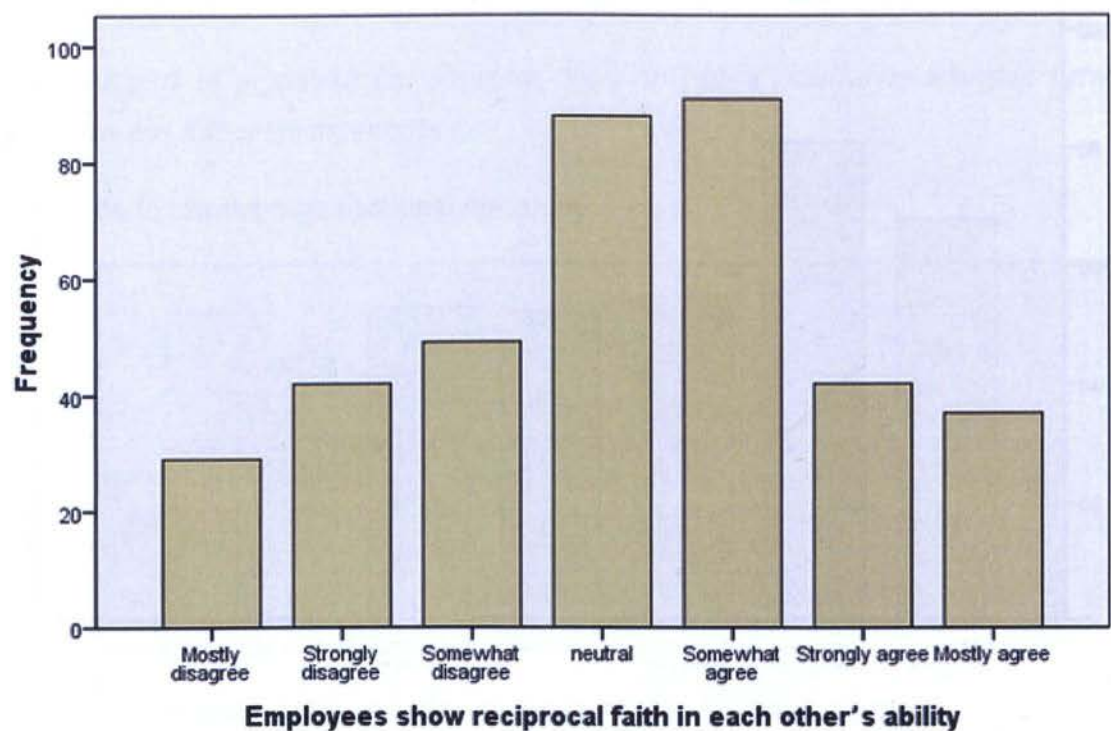


Figure 6.19: Employee Faith

The mutual trust and relationship helps in working effectively. When the employees are performing in a team then they build trust among each other. In the analysis, it was studied that employees believe that reciprocal faith and trust helps in performing effectively.

Employee with Top Managers can be easily accessed

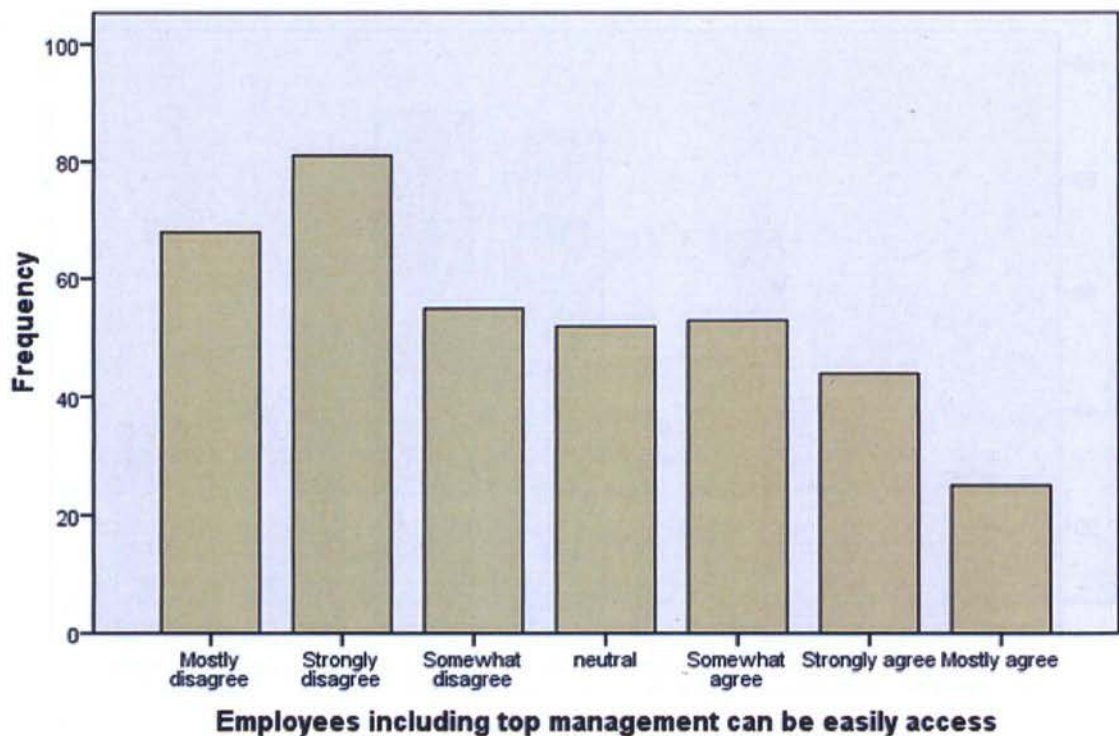


Figure 6.20: Employee Access

The communication about any problem or issue helps in finding logical decisions. The availability of top managers plays an important role when employees need to ask about any information. In the analysis, it was studied that the organisation that is accessed by top managers helps in building competitive advantage.

H₂: There will be a positive relationship between organisational structure and KM of the organisation.

H_{2a}: As part of organisational structure, there will be a positive relationship between workflow and KM of the organisation.

Forced to follow the organisational hierarchy

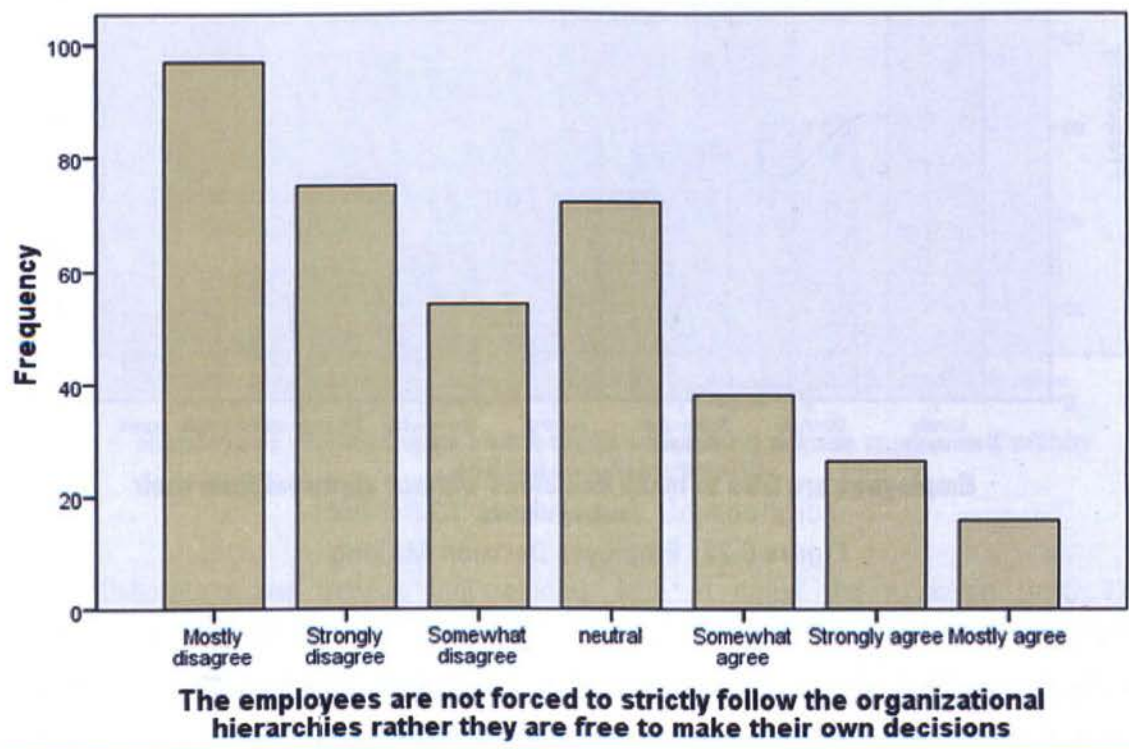


Figure 6.21: Employee Decisions

The hierarchy of company needs to be flexible and the managers need to coordinate with employees. Moreover, the strict hierarchy may de-motivate the employees and they may lose their interest in the job. The decision-making tools also make the employees empower and motivated towards work because when organisation allow employees to make a decision then they feel recognised in the workplace which results in job engagement and knowledge sharing.

Freely decision-making



Figure 6.22: Employee Decision Making

Making decisions freely can help employees to enhance their controlling skills. It develops the effective decision-making skills in them, which guides them in their career. It also helps them to perform work effectively because autonomy helps them to understand the level of pressures and helps them to deal with the pressure in effective manner. It also develops conflict management and stress management skills in them. In this research, it was seen that in these companies, employees do not get autonomy to make decisions and they need to take approval of their supervisors even for a small day-to-day tactics.

Collaboration with team and departments

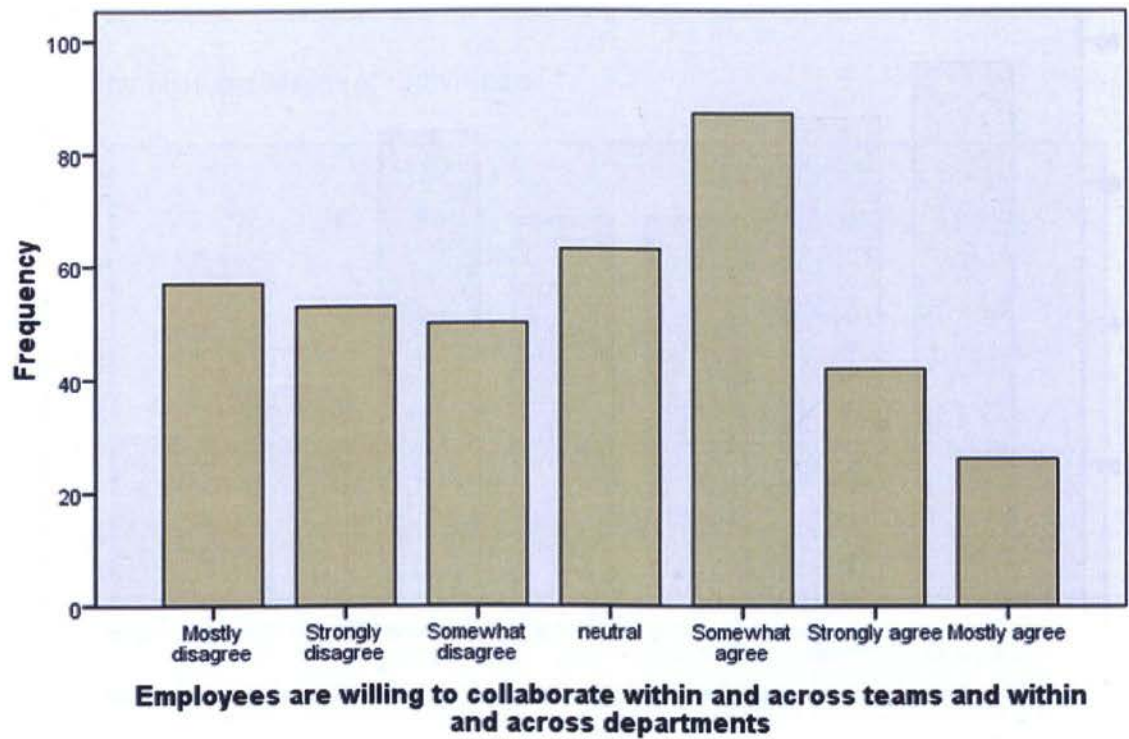


Figure 6.23: Employees & Collaboration

The collaboration and mutual understanding help in doing the work on time. The collaboration with the team and departments helps in sharing knowledge and learning new ideas. In the analysis, it was studied that most of the participants agreed that collaboration among team results in expanding the circle and sharing knowledge.

Employee Satisfaction through Cooperation and Collaboration

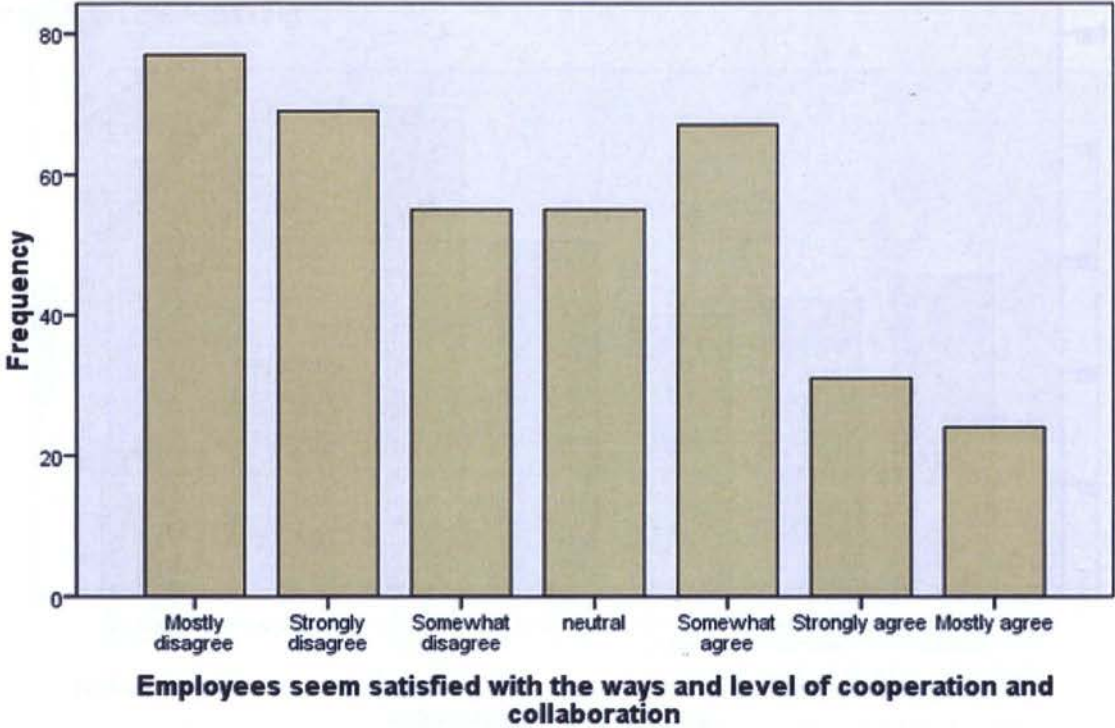


Figure 6.24: Employee Satisfaction

The employees get satisfaction when they are cooperating with each other. The get encourage when they are building good relationship with other colleagues. In the analysis, most of the participants were not agreed because they think that it increases the level of competitions among colleagues.

H2b: As part of organisational structure, there will be a positive relationship between tacit knowledge and KM of the organisation.

Protecting tacit knowledge of individuals

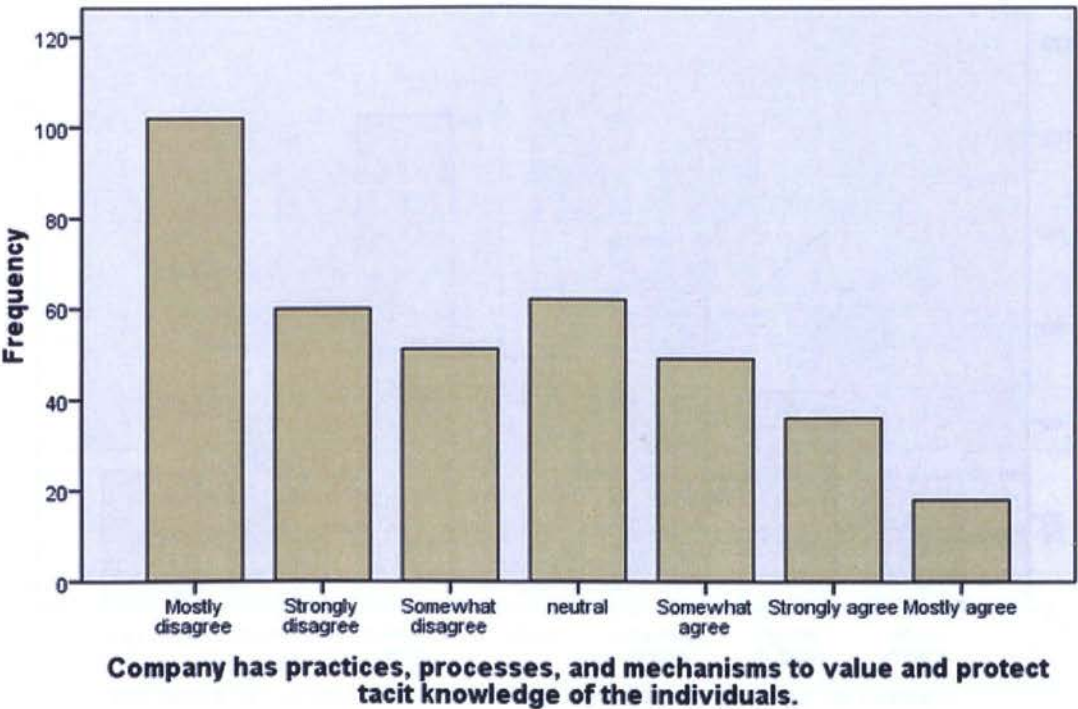


Figure 6.25: Tacit Knowledge Protection

Tacit knowledge involves the experiences, values and processes that help organisations to perform well. It helps them to create focus on the organisations and provides a right direction to employees to perform well. In these companies, it is seen that company do not practice and give value to their tacit knowledge. The lack of giving importance to tacit knowledge means that the company do not value their values and do not preserve it.

H2c: As part of organisational structure, there will be a positive relationship between explicit knowledge and KM of the organisation.

Explicit knowledge and KM of the organisation

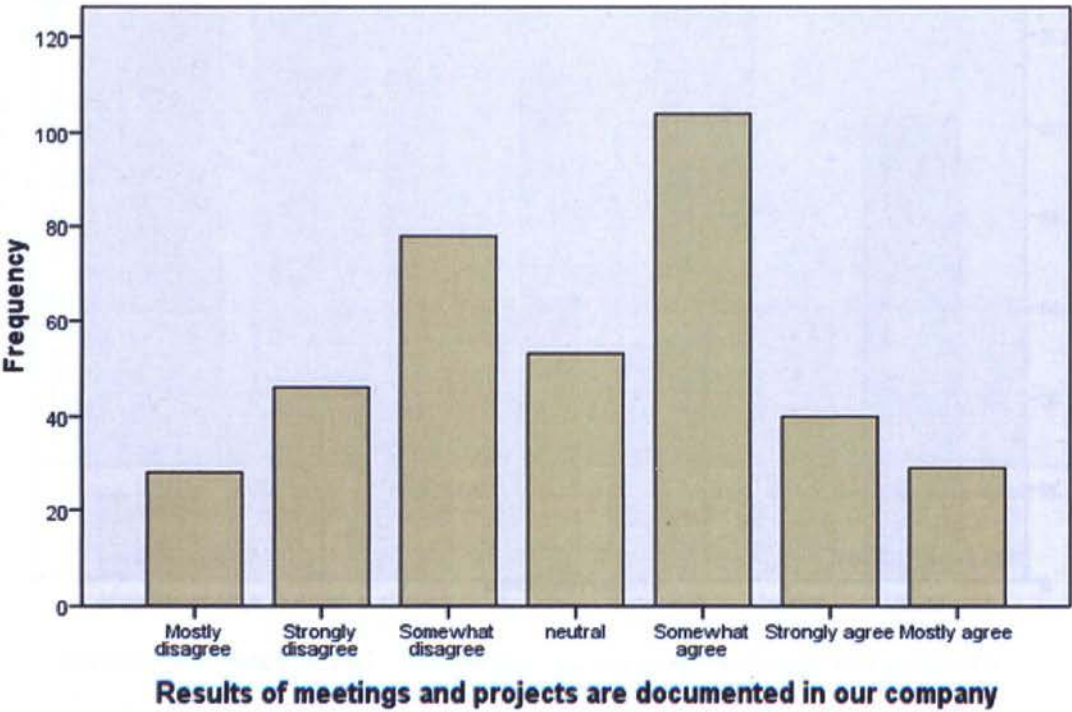


Figure 6.26: Explicit Knowledge Management

Explicit knowledge involves the project and documents that organisation use in order to enhance its knowledge capabilities. In these organisations, the explicit knowledge is used. However, the organisation does not use this knowledge completely, which means by using this they can enhance their KM activities.

Proper manuals and documents

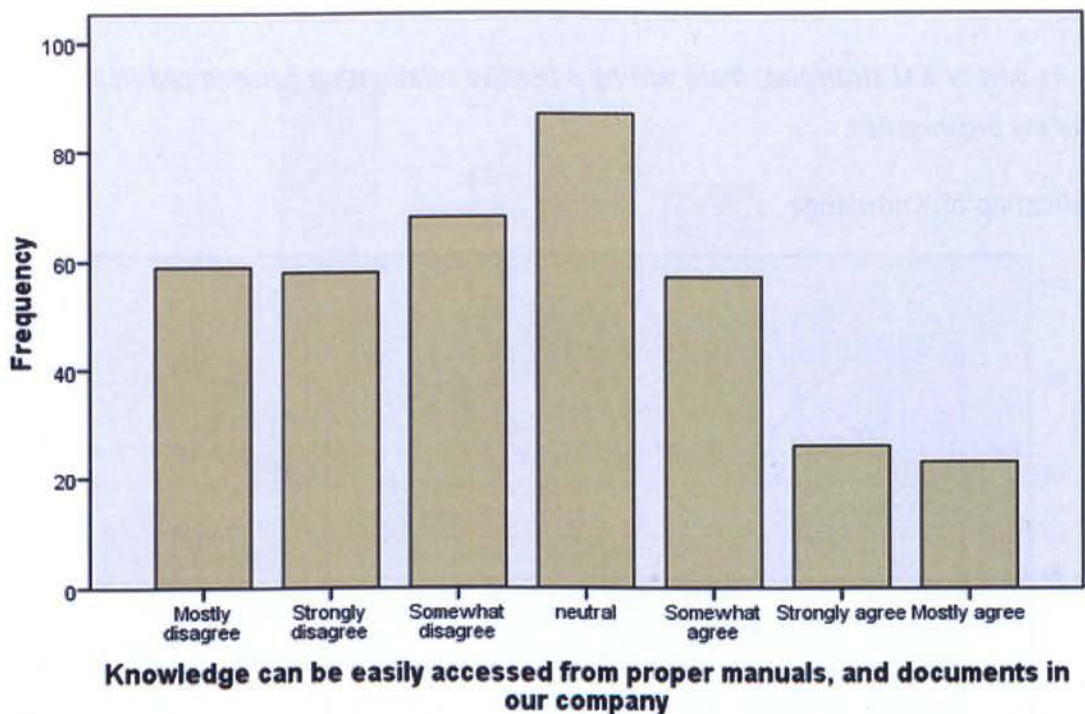


Figure 6.27: Knowledge Documentation

As, it is mention earlier, explicit knowledge can be accessed from documents, manuals and other types of written information. It helps in managing knowledge of the organisation. However, these organisations do not use explicit knowledge effectively, which reduces their KM level.

H₃: There will be a positive relationship between KM strategies and KM of the organisation.

H_{3a}: As part of KM strategies, there will be a positive relationship between codification and KM of the organisation.

Codification of Knowledge

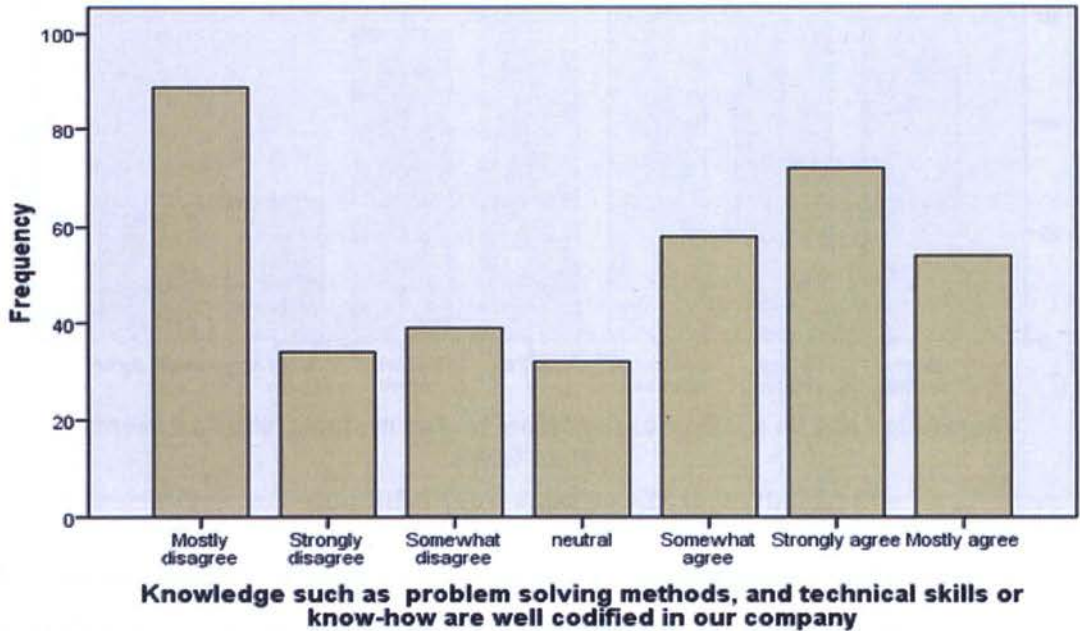


Figure 6.28: Knowledge Codification

Codification is that strategy of KM that helps in coding the knowledge for later use. Various big multinationals do knowledge codification because it helps them to store their records, which is useful in future. The codification is based on ‘people-to-the-documents’, which helps in developing the right strategy and provides a clear written or verbal format of information. Much organisation code the information for not only consulting purpose, but it also helps them to benchmark their best performances, which can be retrieved later on. From the overall analysis, it is identified that these telecom companies, codification is less because they gave lesser attention to KM strategies. However, it is important for organisations to pick right strategy that can help them in managing knowledge (Hansen, Nohria and Tierney, 1999).

Codification through Documents and Manuals

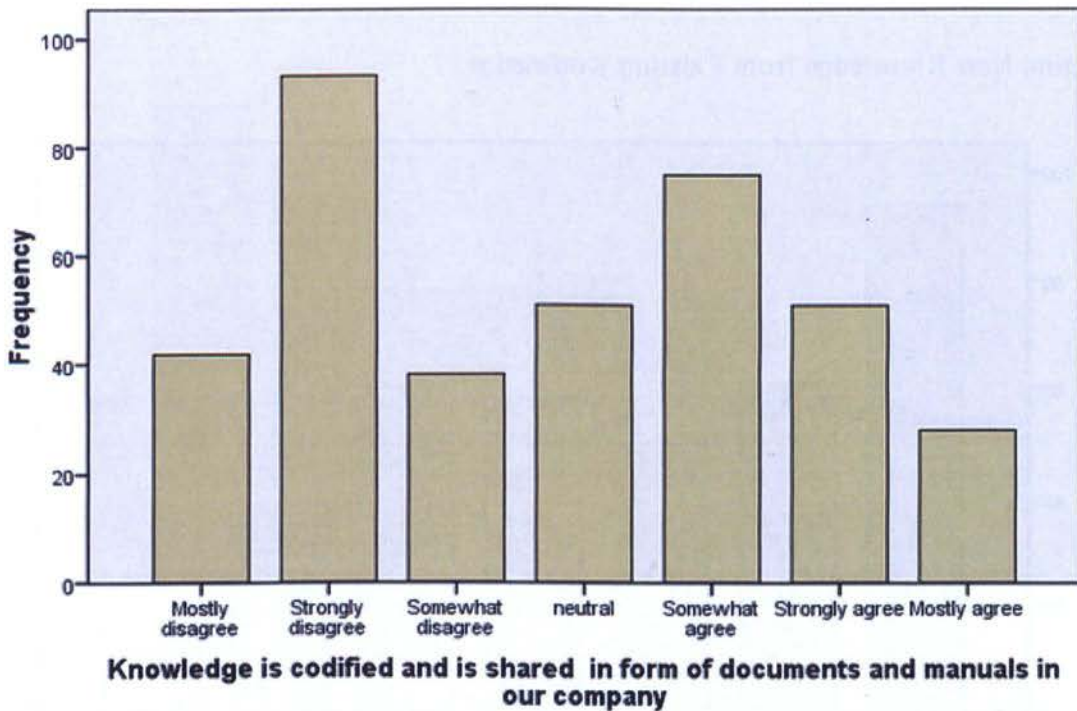


Figure 6.29: Knowledge Documental Codification

Documents and manuals are the written format of codifying knowledge. It helps in keeping the records that are mostly related to financial statements and previous organisational performances. KM strategies involve codification, which helps in improving KM within the organisation. From the analysis, it is identified that knowledge within these organisations is not codified. It means that if organisation start codifying knowledge, then it would be relatively easier for them to design their future strategies.

H_{3b}: As part of KM strategies, there will be a positive relationship between KM process and mechanisms and KM of the organisation.

Creating New Knowledge from Existing Knowledge

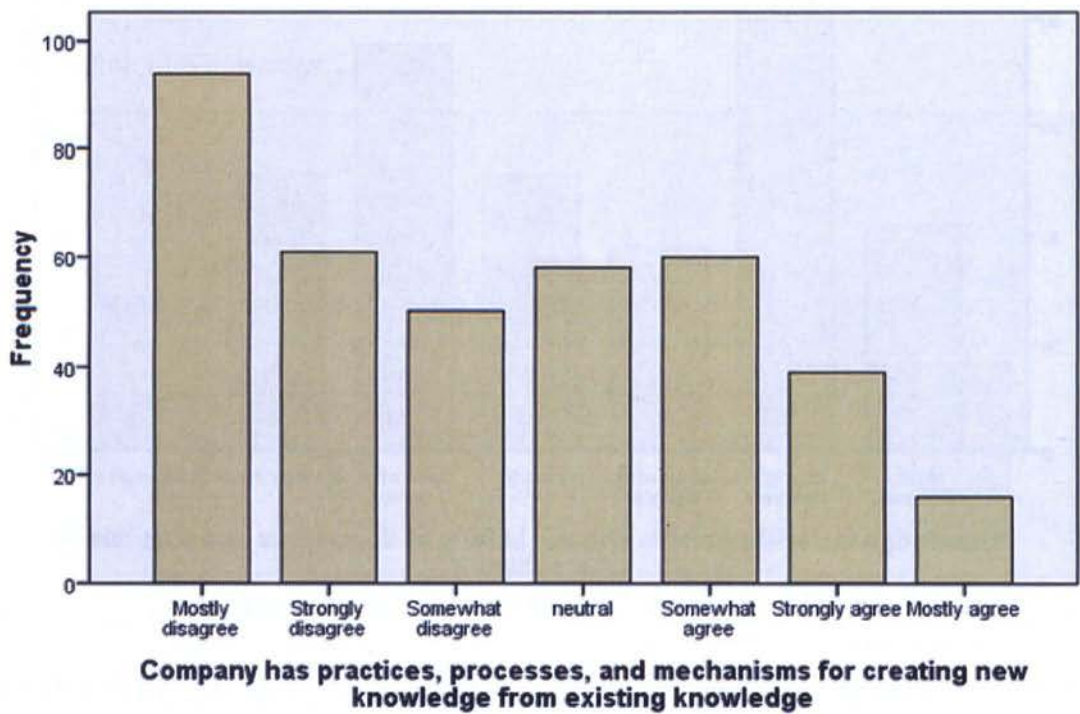


Figure 6.30: Knowledge Creation

This statement is linked to the practices, policies and mechanisms that an organisation can use in order to create new knowledge from the existing one. It is identified in the analysis that the telecom companies do not create new knowledge from the existing one, which means that they do not preserve their old knowledge. However, if companies start preserving and codifying their old knowledge, then it gets relatively easier for them to take decisions. Respondents are not satisfied with the procedures and processes their organisation adopted for KM. Hence, this leads to various problems and conflicts.

Knowledge Acquisition and Sharing

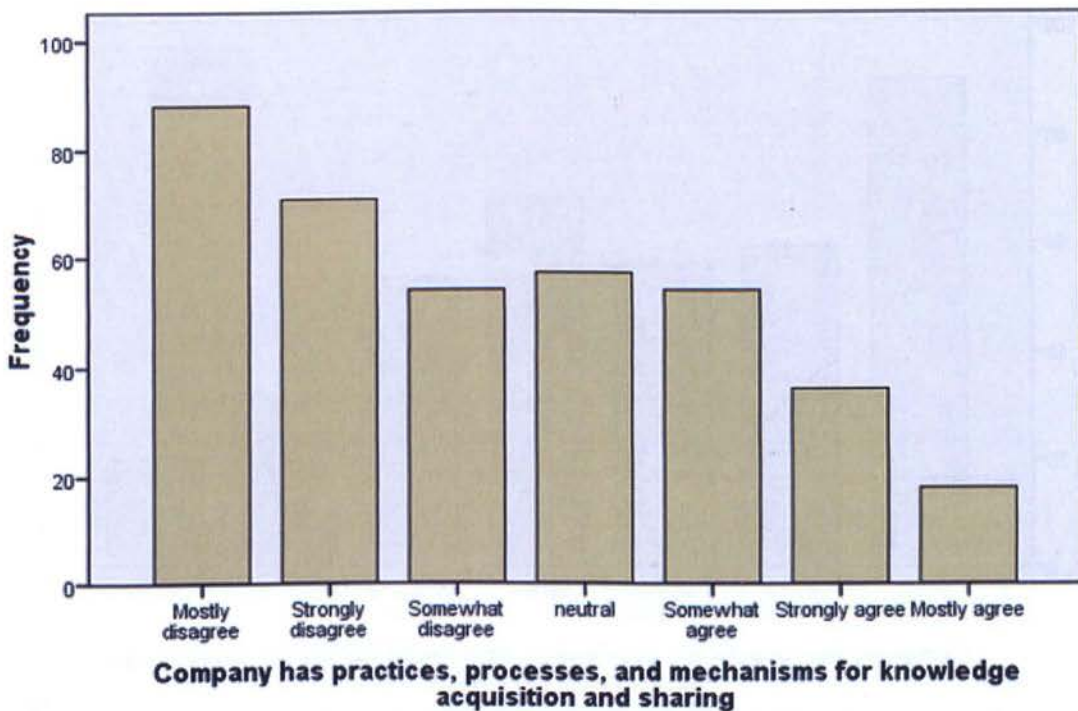


Figure 6.31: Knowledge Acquisition

For effective performances and better results, it is essential to share knowledge. Thou, for organisations, knowledge sharing involves explicit knowledge, but it also widely involves implicit knowledge, which include personal experiences, lessons and teachings that senior and experienced managers give to their staff members. According to the data collected and response gathered, it is identified that Zaen, Mobaily and STC do not share knowledge, which sometimes creates complication for them to work in some critical situations. However, the knowledge sharing involves the following criteria that are important for these organisations to follow (Frost, 2010):

- Access towards new and old knowledge,
- Guidance to build new knowledge,
- Articulation of useful information,
- Awareness of available knowledge,
- Completeness involves the fully available knowledge.

Knowledge Acquisition from Competitors

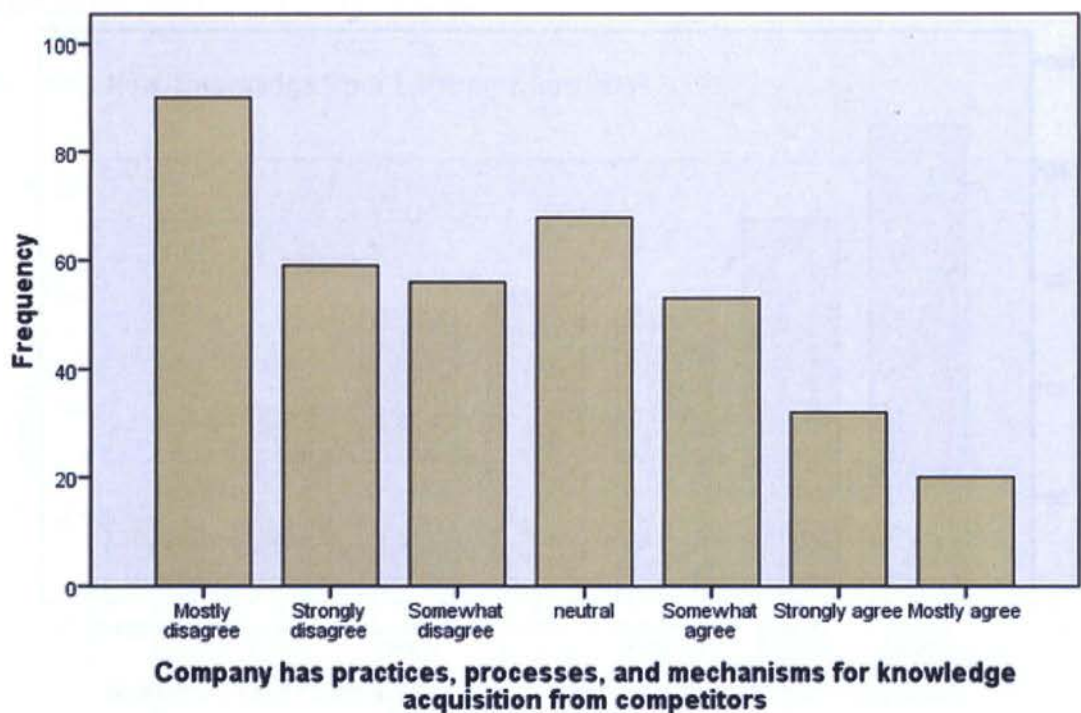


Figure 6.32: Competitor Knowledge Acquisition

As it is discussed earlier regarding the sharing and acquisition of knowledge, but here, the discussion will be regarded acquiring knowledge in order to compete with rivals. From the analysis of this statement, it is identified that their company does not follow knowledge sharing skills. Most of the respondents disagreed with it. Hence, it is essential for organisations to realise the need of information sharing.

Practices to Upgrade Best Practices

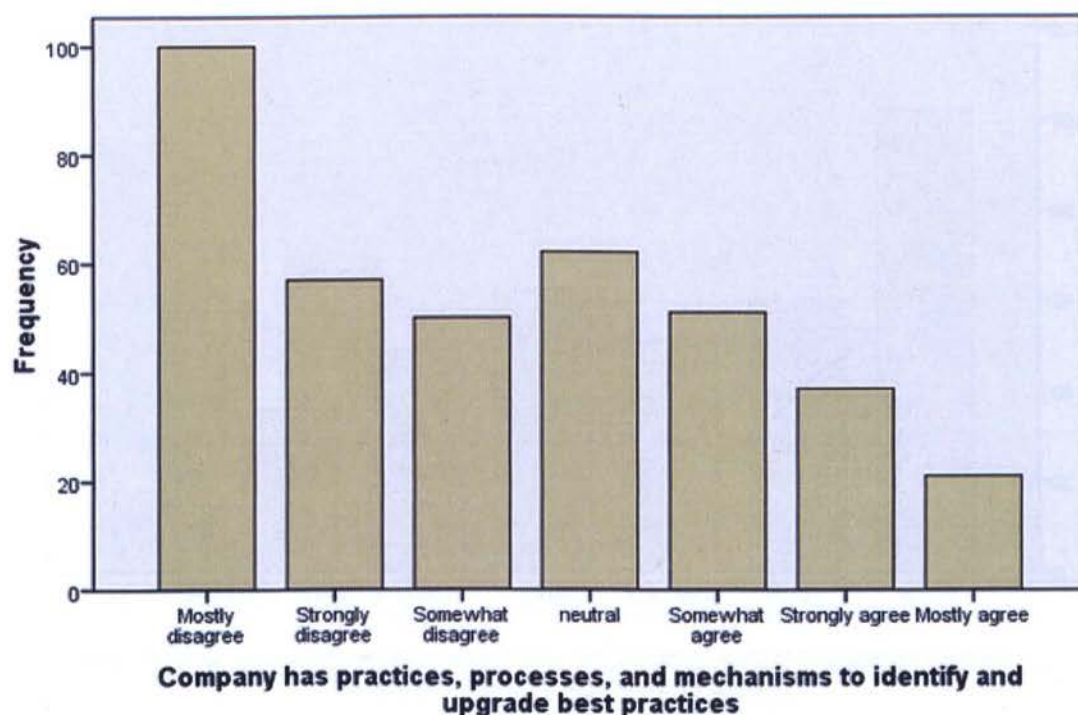


Figure 6.33: Best Practices

For organisations, it is essential to identify the best practices they can use to upgrade their system. In order to build competitive advantage, it is essential to develop strong knowledge based capabilities, which can help organisations to understand their potential. However, in this research, it is identified that the telecom companies that are studied do not follow best practices to upgrade their system.

Mechanisms to Value Tacit Knowledge

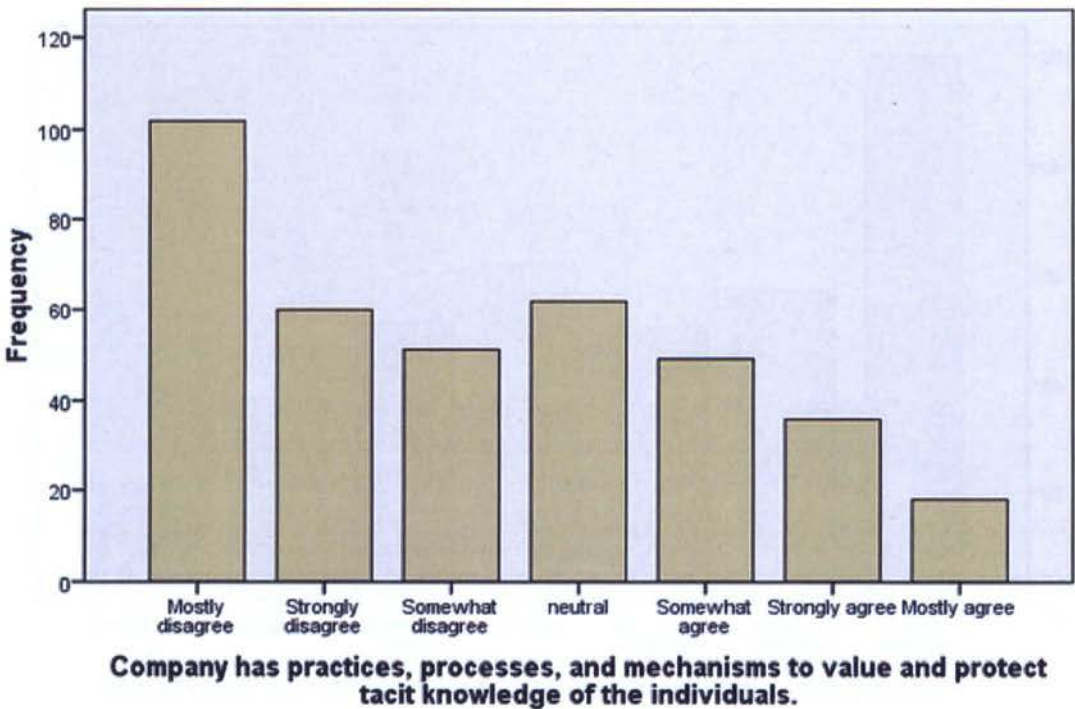


Figure 6.34: Tacit Knowledge Valuation

The tacit knowledge involves the values that organisations have in their hearts. These values help them to develop their strong culture and training their new incumbents. In these organisations, it is identified that they do not prioritise and form a complete mechanism to value their tacit knowledge. This lack in valuing tacit knowledge makes them weak to compete with other firms. Moreover, it also gives chances to employees to exploit the benefits that an organisation gives to them.

Integrating Different Sources of Knowledge

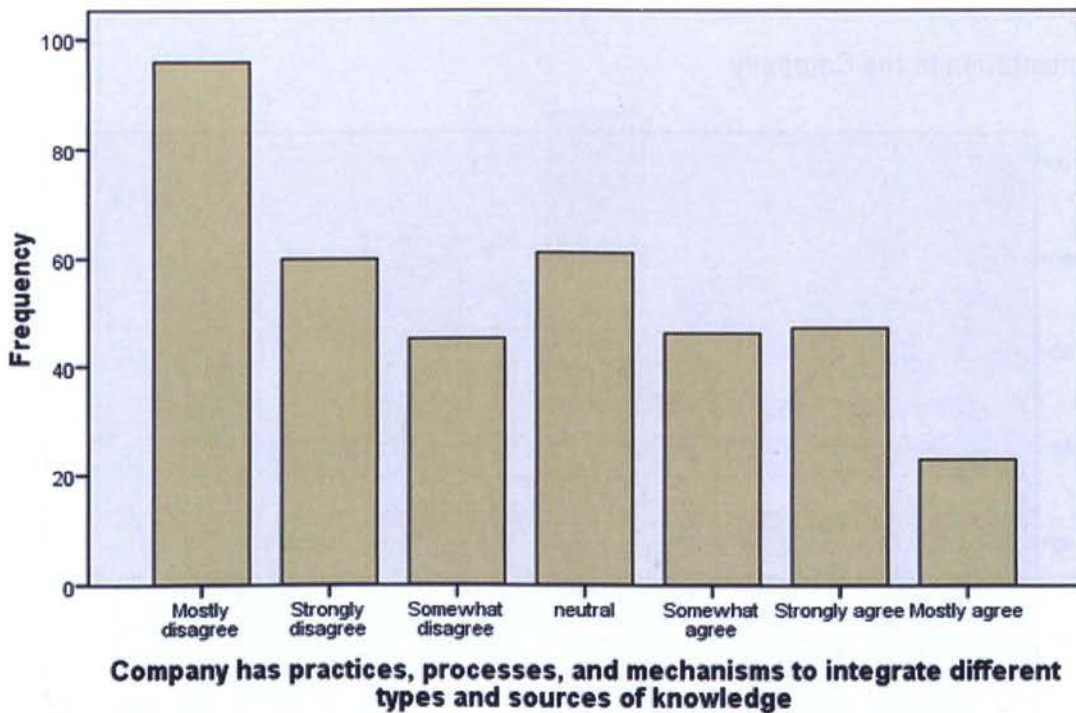


Figure 6.35: Knowledge Source Integration

Integrating with different sources of knowledge can help organisation to form a link with good and bad performances, positive and negative behaviour, weak and strong candidates. It also helps employees to understand that integration means two-way communication. This helps them to resolve problems quickly because they are directly in contact with other departments, which helps them to reduce the level of confusion and conflict. However, respondents of these organisations mentioned that their company does not have processes, practices and specific mechanism to integrate different types of sources of knowledge.

H_{3c}: As part of KM strategies, there will be a positive relationship between explicit knowledge and KM of the organisation.

Documentation in the Company

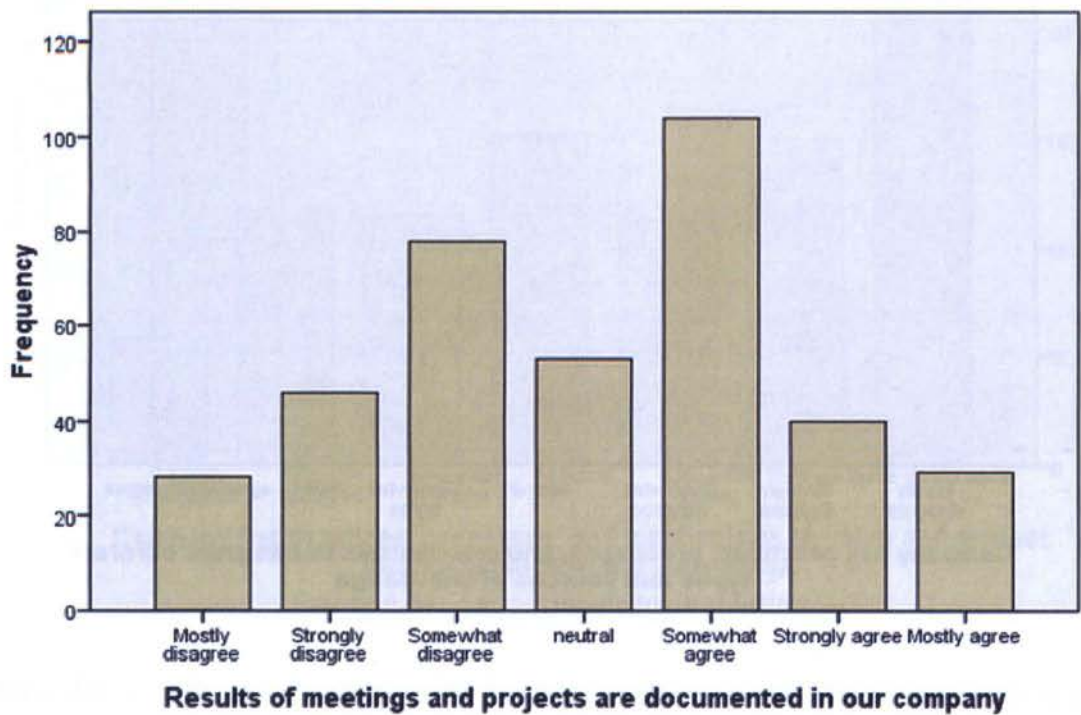


Figure 6.36: Company Documentation

Documentation involves the formal presentation of knowledge, which includes meeting papers, rules and regulations, financial books, yearbooks and best performers list. These help employees to understand and learn things quickly. It also helps them to realise that what the organisation expects from them. From the analysed data, it is identified that these organisations do not follow the results of meetings and different projects as the purpose of storing explicit knowledge.

Knowledge Accessibility

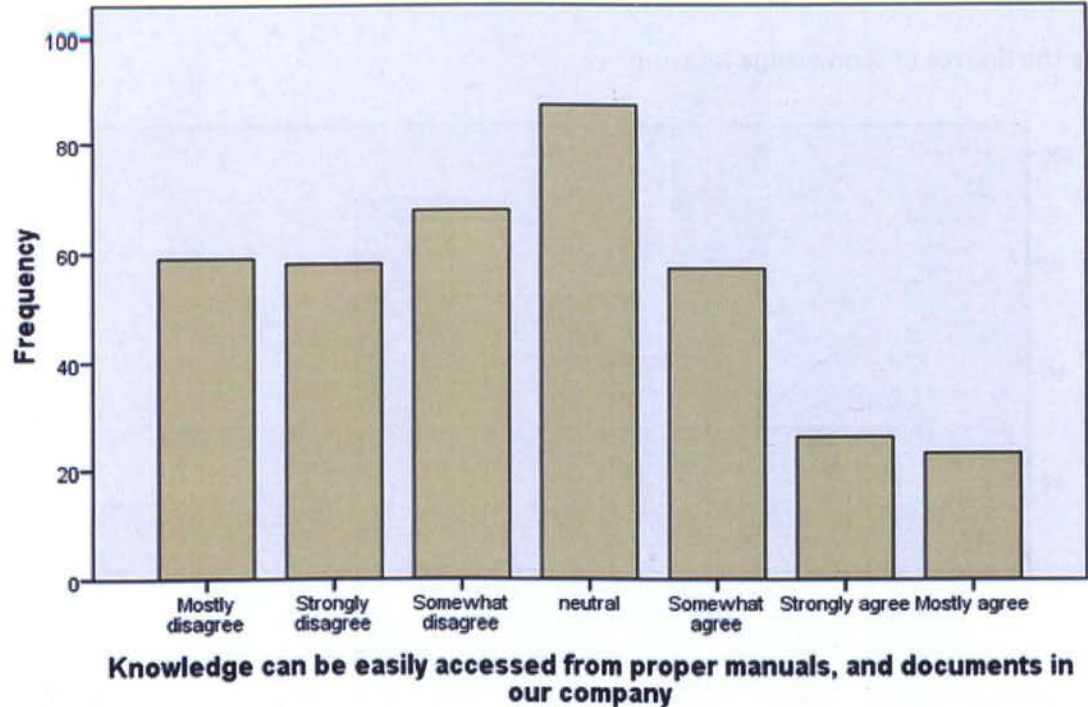


Figure 6.37: Knowledge Accessibility

Accessibility of knowledge is previously discussed that how it contributes to knowledge management. Here, the accessibility of explicit knowledge is discussed. The employees of these organisations mentioned that knowledge could easily be accessed from documents and proper manuals in their company. It means that companies do have explicit knowledge, but they do not use it. However, if they start using it, then employees can establish KM strategies within their culture.

H_{3d}: As part of KM strategies, there will be a positive relationship between knowledge sharing (KS) and KM of the organisation.

IT as the Source of Knowledge Sharing

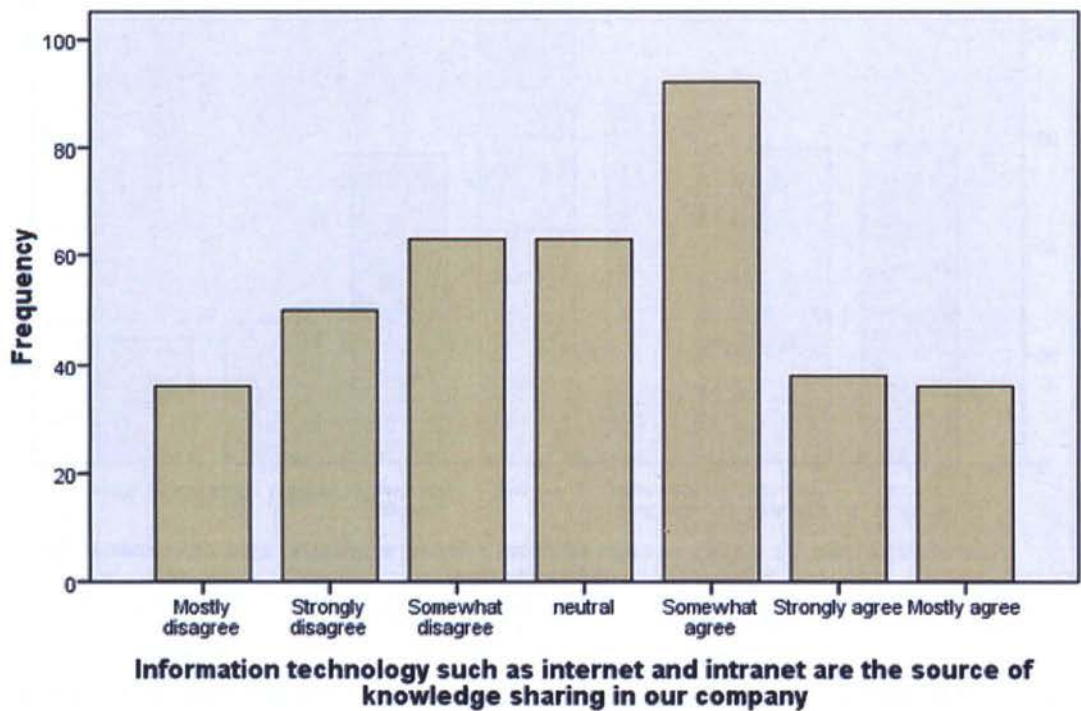


Figure 6.38: Knowledge Sharing Sources

The knowledge sharing helps in exploring the knowledge with other colleagues. The company can share knowledge through various intranet and extranet techniques. Moreover, the company can also stay connected with its suppliers and dealers. In this way, they can share knowledge with employees and departments. In the analysis most of the participants believe that knowledge sharing the most effective part in order to keep the organisation on track.

Face-to-Face Meetings for KM

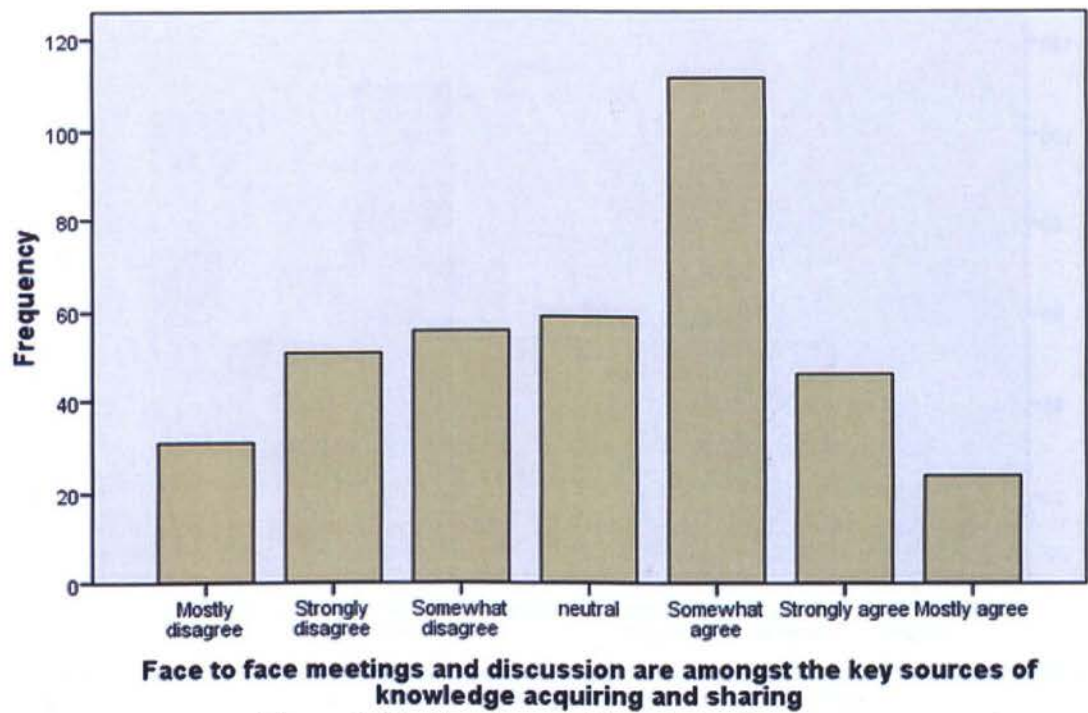


Figure 6.39: Meetings as Knowledge Sources

The face-to-face meetings are the source of sharing best knowledge and understanding the views of others. In the literature, it was discussed that those organisations that are focused on discussions, seminars and workshops are keeping their employees engage in job and providing them the opportunity to learn new skills. The meeting helps in communicating the employees with other professional peoples. It also results in brainstorming and mentoring.

Informal Discussion in Knowledge Sharing

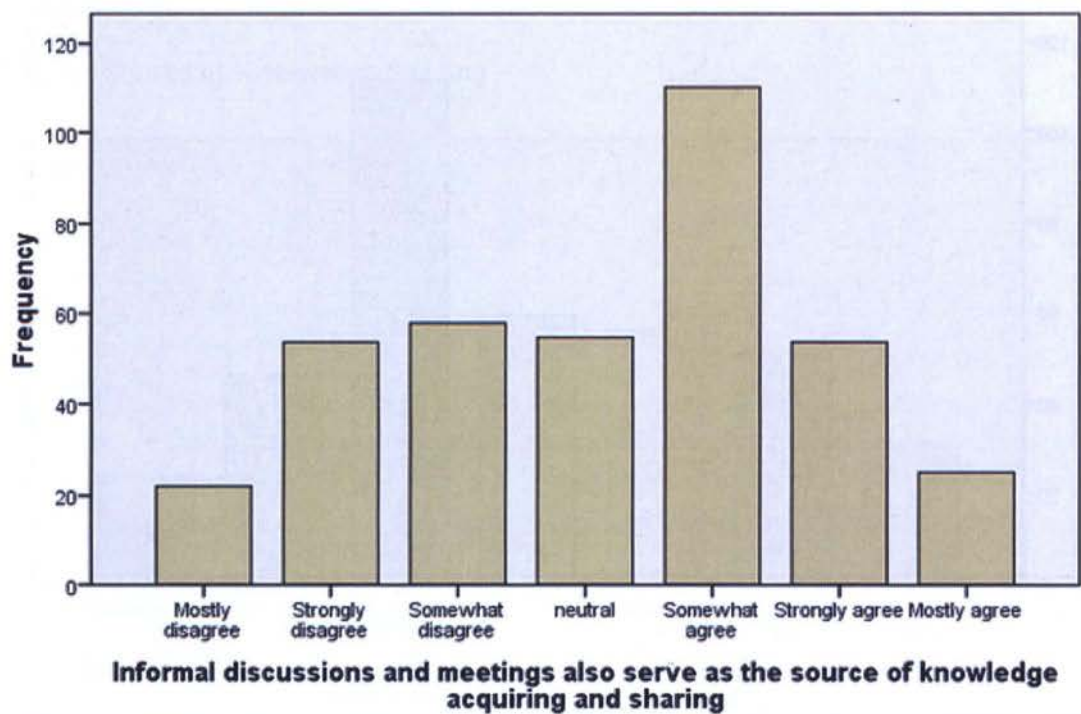


Figure 6.40: Informal Knowledge Sources

The informal discussions are the source of knowledge sharing about various topics and issues. The organisations need to allow employees to have informal discussions. In the analysis, the participants believe that the informal discussion between managers and employees also helps in building good relationships.

Deliberate Endeavours to Communicate Knowledge

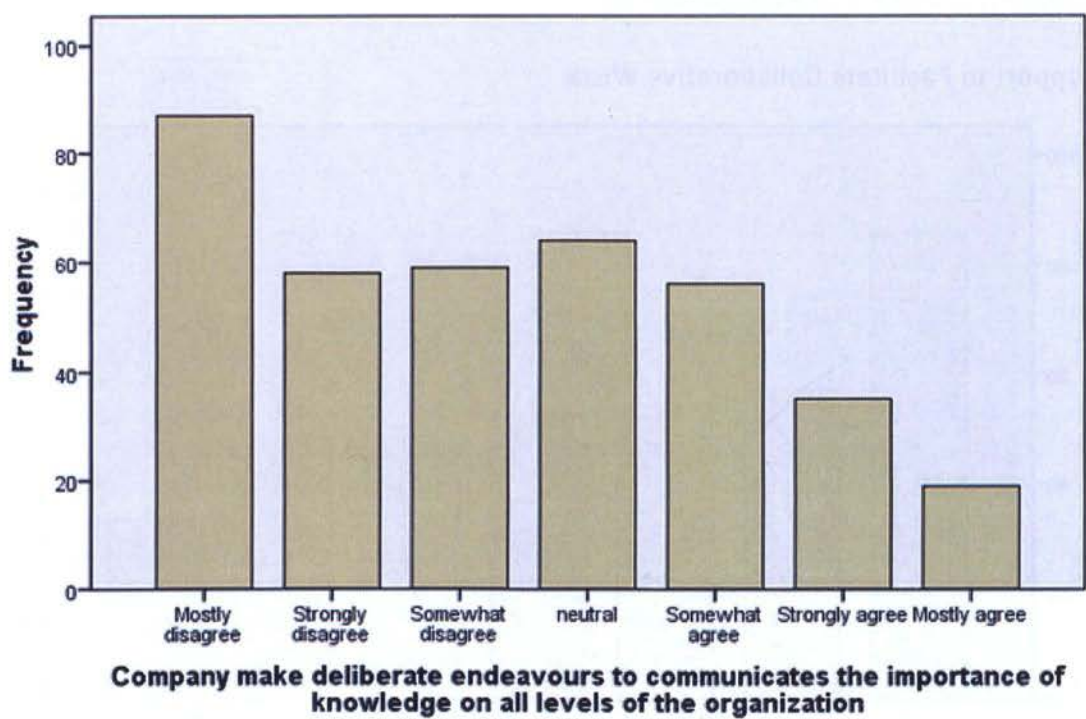


Figure 6.41: Knowledge Communication

The company needs to share knowledge about the company with employees. In order to generate better results the mangers can deliberate endeavours to enhance the growth of the company. The business growth will result in increasing the sales and generating more profit. In the analysis, most of the employees believe that their company is not focusing on deliberate endeavours, which are resulting in poor knowledge sharing.

H_{3e}: As part of KM strategies, there will be a positive relationship between information technology (IT) and KM of the organisation.

IT Support to Facilitate Collaborative Work

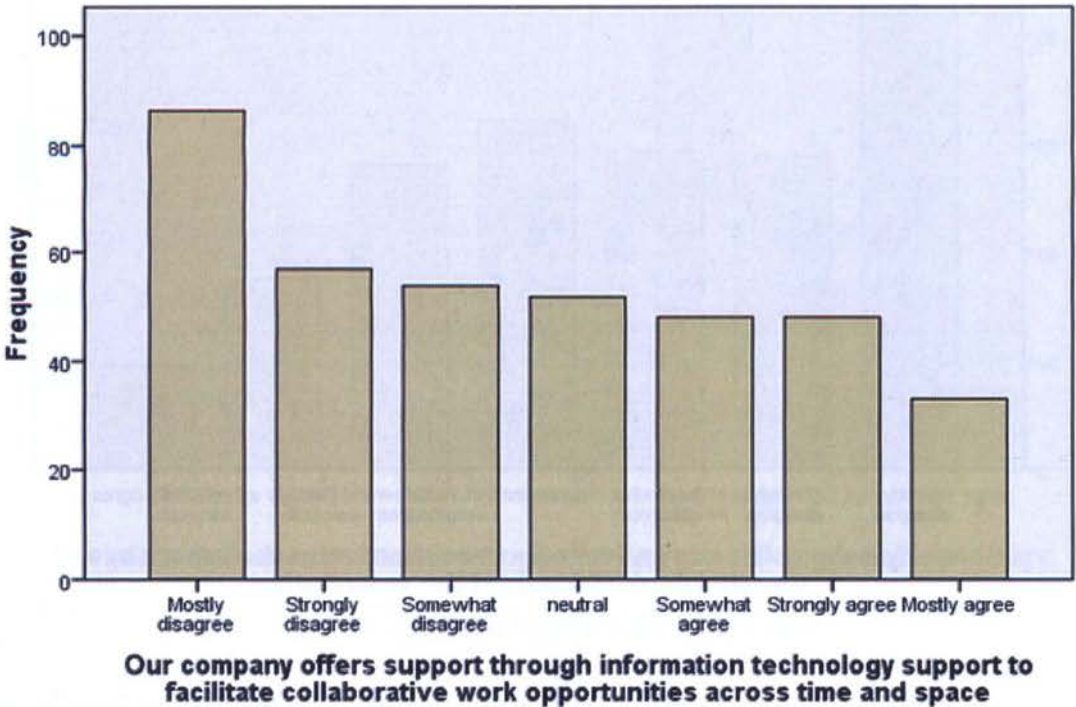


Figure 6.42: Collaboration Through IT

The information technology helps in innovating new techniques and tools for better performances. The collaborative working opportunities help employees to work through information systems. This results in doing the work effectively with efficient resources. Those organisations that are not providing collaborative working opportunities are unable to keep their employees engaged in work.

Communication through IT System

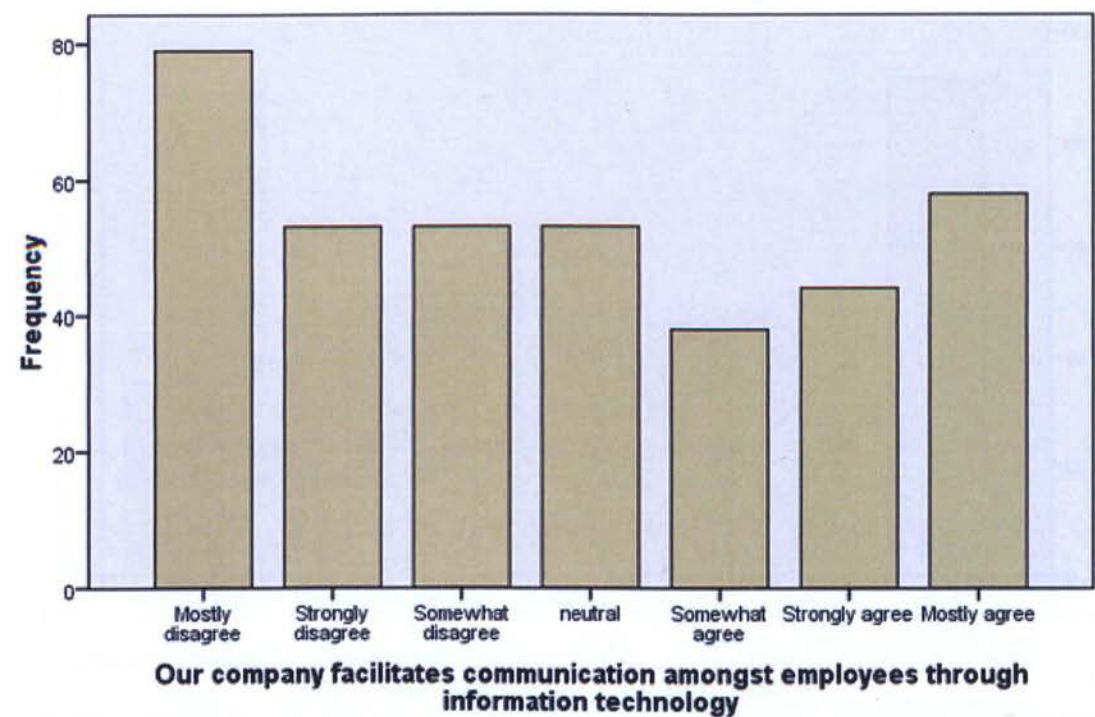


Figure 6.43: Communication Through IT

The effective communication not only helps in working effectively but it also motivates the employees towards any task. In this way, the employees want to face challenges and work proactively. The communication through IT system helps in proving accurate and simple knowledge. In the analysis it was studied that most of the participants were not able to communicate through IT system because their organisation as not providing this facility. Therefore, in this way, the employee was facing a problem and it was decreasing their interest towards work.

Search for Information through IT

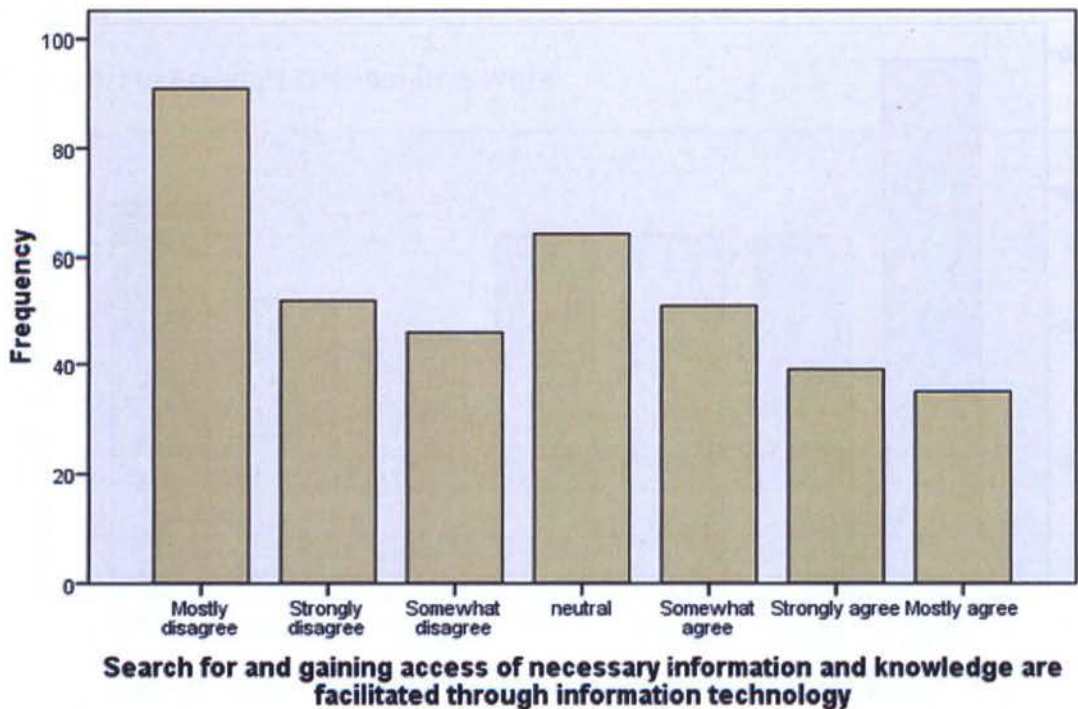


Figure 6.44: Information Search

The information searching is a difficult task if the organisation is not providing accurate tools then the employees may suffer from confusion and stress. The proper information search helps in doing the work on time and accurately. The IT system provides opportunities for employees to manage their data and recall it whenever they need it. In the analysis, it was gathered that most of the participants were not provided with the IT system due to which they were facing difficulty in searching the various information on time. It was also more time consuming and becoming the barrier to growth.

Storing of Information

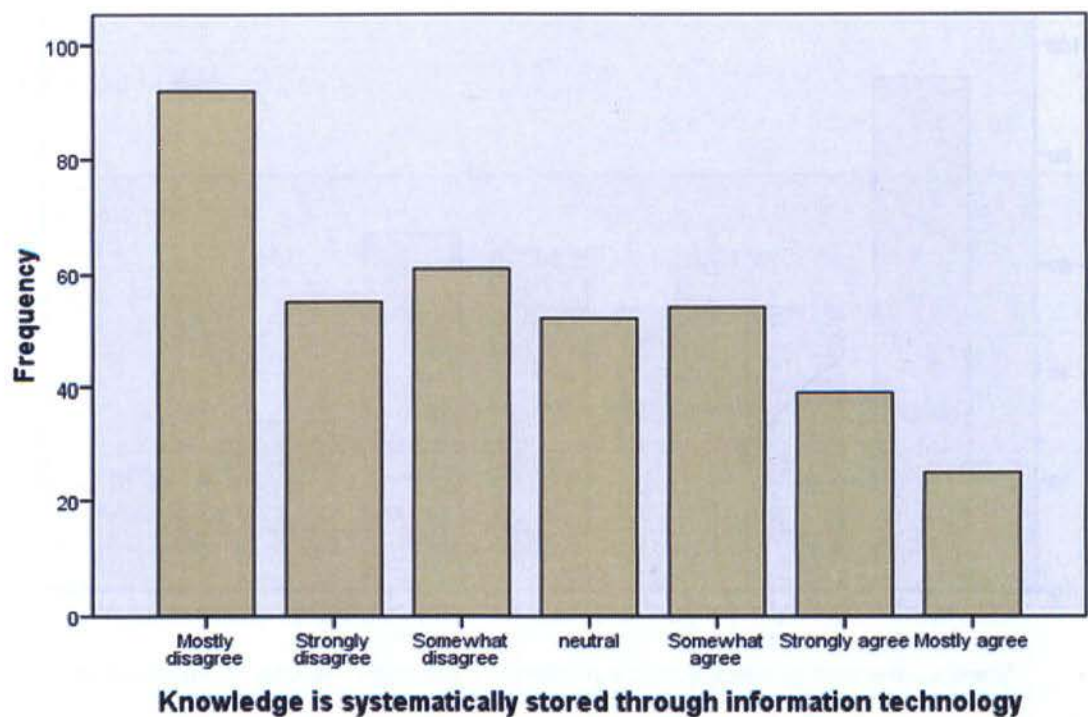


Figure 6.45: Information Storage

Knowledge storage helps in retrieving the data later on. It helps employees to recall it whenever they need it. Most of the employees were not satisfied because their organisation was not proving the opportunity of storing the information through the effective IT system. In this way, the employees were unable to perform effectively. However, few participants believe that their organisation understands the need of employees and the managers try to provide all the benefit to employees.

Use of IT for Simulations

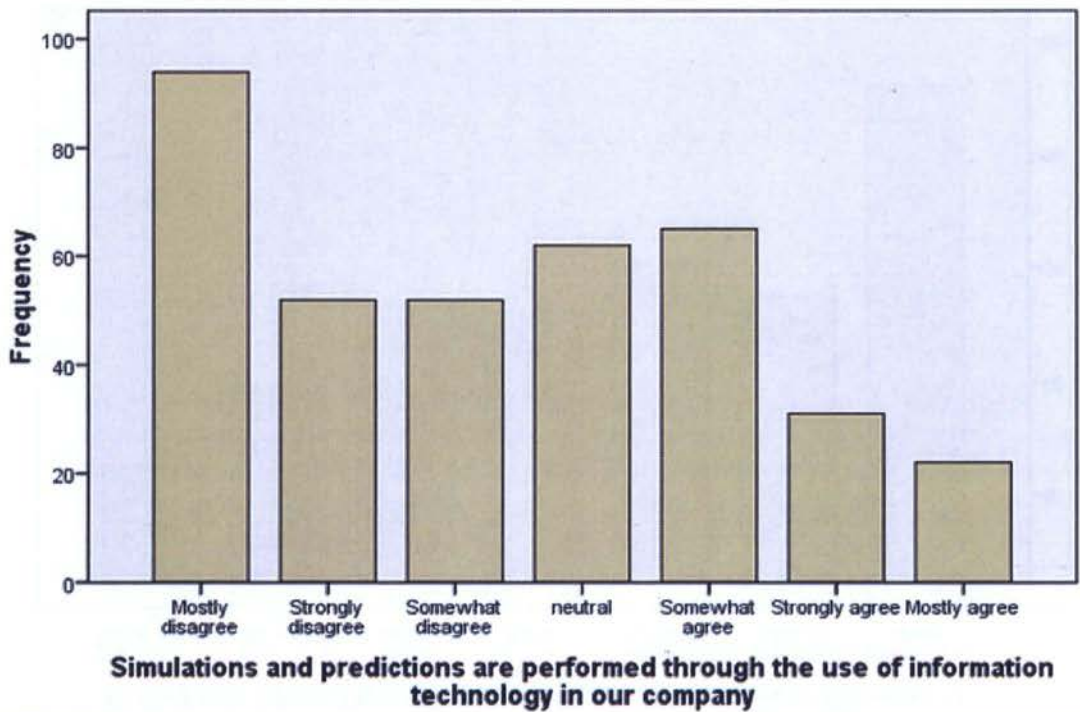


Figure 6.46: Simulations

The knowledge sharing of company is done through simulations and predictions to manage the flow of knowledge. The organisations need to assure that the IT system is updated according to the new tools. The updated systems in organisation make the employee work exactly. In the analysis, it was gathered that the majority of participants was not satisfied from their organisation because their managers were not using IT in order to perform predictions and simulations. Few of the participants were satisfied with their organisation because the managers were providing simulations and predictions in order to enhance the working capabilities of employees and the organisation.

H_{3f}: As part of KM strategies, there will be a positive relationship between mentoring and KM of the organisation.

Mentoring in KM

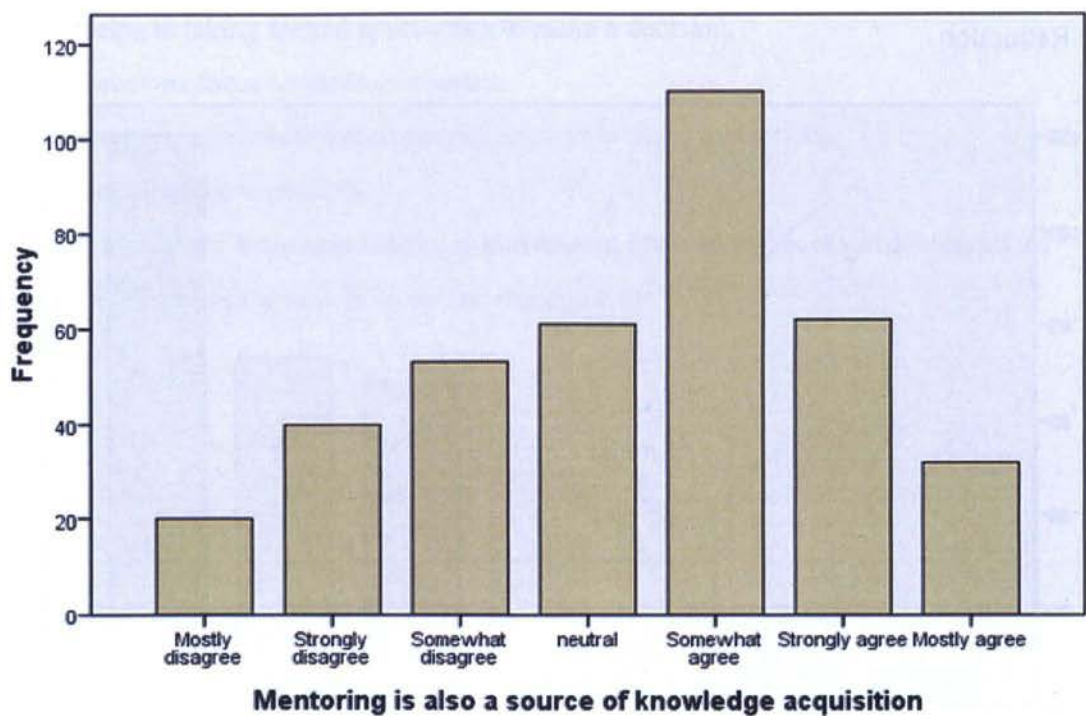


Figure 6.47: Mentoring

Mentoring the employees result in making them responsible towards their job. Moreover, the employees get proactive and they become able to prioritise their work. In the analysis, it was identified that most of the employees believe that the organisation needs to provide mentoring program to employees. In this way, the employees know their future. Moreover, this also keeps the employees on track and they feel motivated through sharing their views and discussing their problems while mentoring process.

H₄: There will be a positive relationship between KM tools and mechanisms and KM of the organisation.

H_{4a}: As part of KM tools and mechanisms, there is a positive relationship between quality management and KM of the organisation.

Cost Reduction

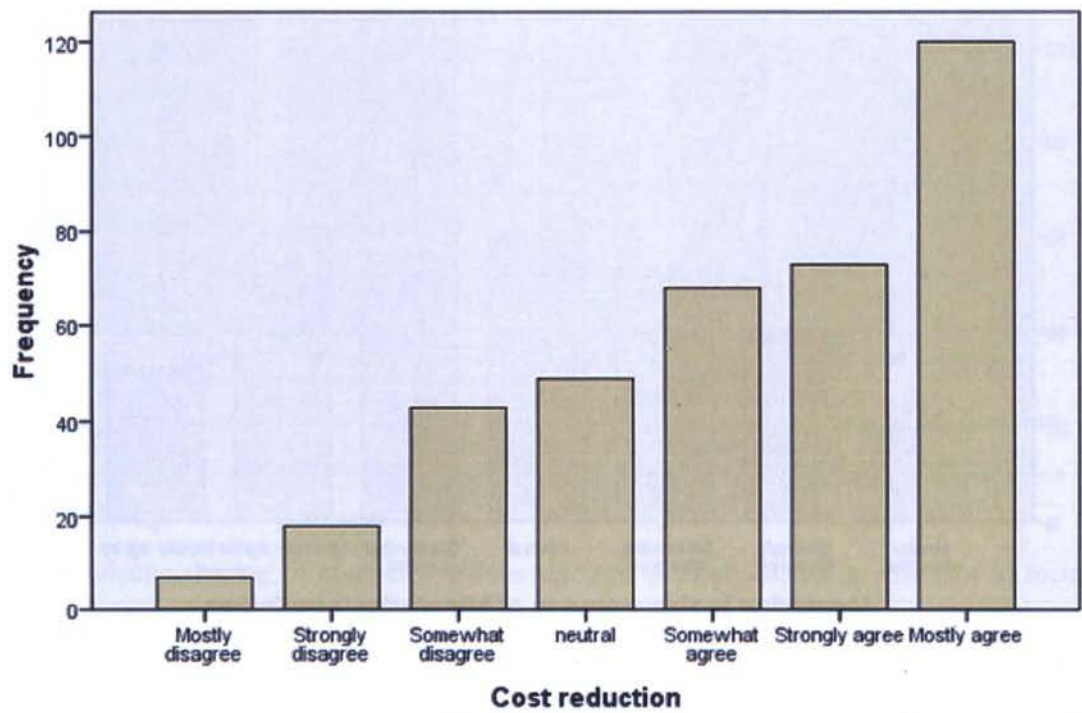


Figure 6.48: Costs

For organisations, the biggest concern is to reduce and minimise their extra cost by working on specific details that are essential for the organisations. For organisations, it is essential to understand that how specific mechanisms and tools of KM contribute to the overall performance of the organisation. Understanding KM facilities and the importance is essential because it helps in linking the quality with the organisational performances. Based on this, the concept of quality management took a lot of popularity in KM. It not only helps organisations to improve their workings and performances, but also help them to overcome the issues and problems they face. To overcome issues related to KM, IT plays a vital role. IT not only helps organisations to raise their standards, but also help them to control poor quality and perform well. To raise quality standards, various ISO standards are assigned to the organisation that adds value to its knowledge. Based on quality, there are following eight

principles of management that help in improving the knowledge management skills and performances (Ribiere and Khorramshahgol, 2004):

- Develops leadership within the organisation,
- Develops an approach for processes,
- Helps in taking factual approaches to make a decision,
- Develops focus towards customers,
- Encourage involvement of employees within the organisation,
- Ongoing improvements,
- A stable and long-term relationship based on forward and backward integration,
- Develops system approach for the management.



Figure 6.49: Cost Reduction

To understand the contribution of quality management in KM, following is the chart:

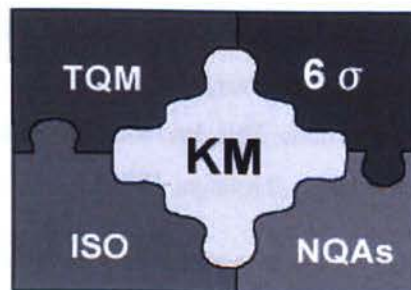


Figure 6.50: KM and Quality Management
Source: (Ribiere and Khorramshahgol, 2004)

This chart explains that KM revolves around the factors related to quality management. It means that for effective performances of the organisations, it is essential to focus on quality control factors that can help organisation to develop effective qualities within their employees and increase their engagement in decision-making (Ribiere and Khorramshahgol, 2004).

Improving Quality

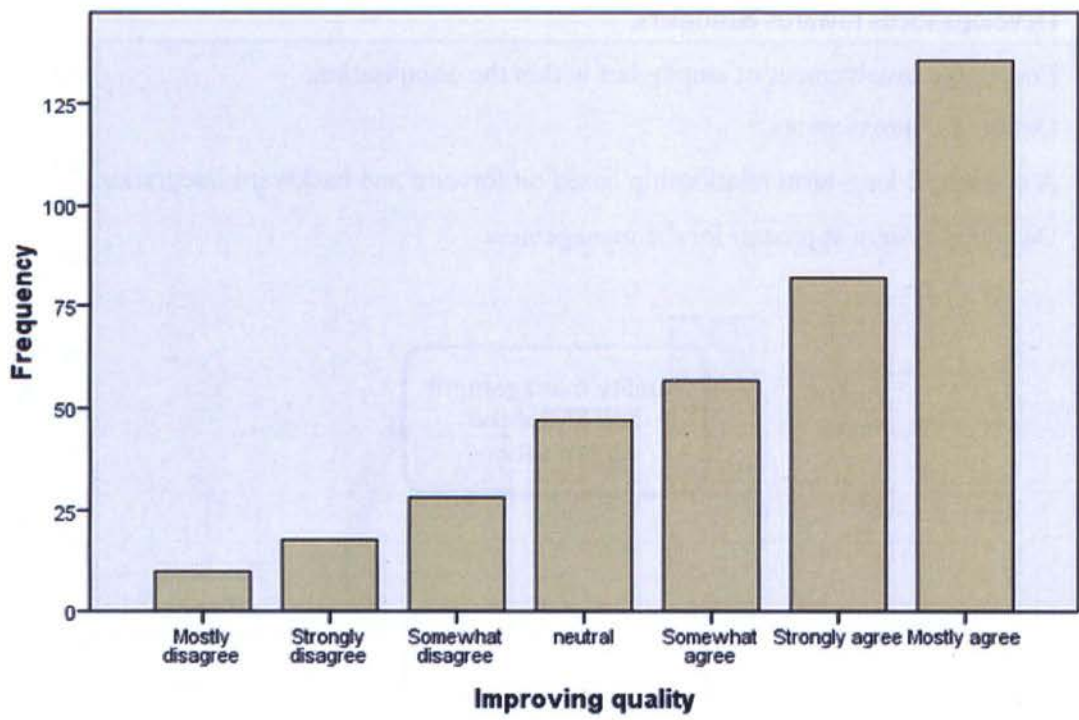


Figure 6.51: Quality

Quality improvement is the concept that is linked to quality management of the organisation. To improve quality within the structure and the system of the organisation, it is important to understand what knowledge is essential for the organisation and how it can contribute to enhance results. Improving quality involves tacit and explicit knowledge. Tacit knowledge helps organisations to take action and improve their internal system, which also leads to empathy and sympathised behaviour. However, to improve the quality based on decision-making, explicit knowledge is important. This knowledge contributes more in conceptual development and systematised knowledge (Nonaka, 1991).

Effective KM tools and mechanism helps in maintaining the quality standards by promoting concrete knowledge and information. It also helps in overcoming weaknesses through brainstorming and open discussions (Nonaka, 1991).

Improving Delivery

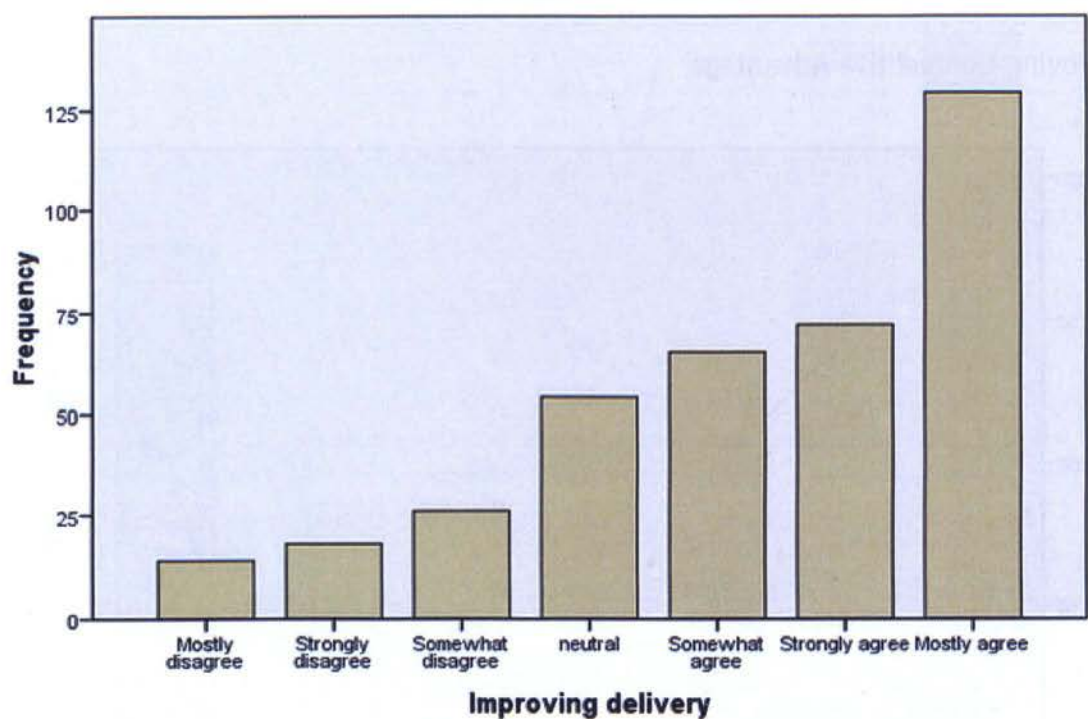


Figure 6.52: Delivery

Improving delivery involves the improvement in quality, which means that when the quality is improved, then employees are able to deliver results on time. This also reduces delay in performances and achievements of tasks.



Figure 6.53: Improving Delivery

This chart illustrates that to improve quality, it is important for top management to take active measures that can help in developing an organic culture instead of mechanistic culture. The organic culture forms an open room for employees to share their expertise and help those who are weak. It also helps in empowering employees where they have freedom to take decisions in order to deliver results on time.

H_{4b}: As part of KM tools and mechanisms, there is a positive relationship between organisational improvement and KM of the organisation.

Improving Competitive Advantage

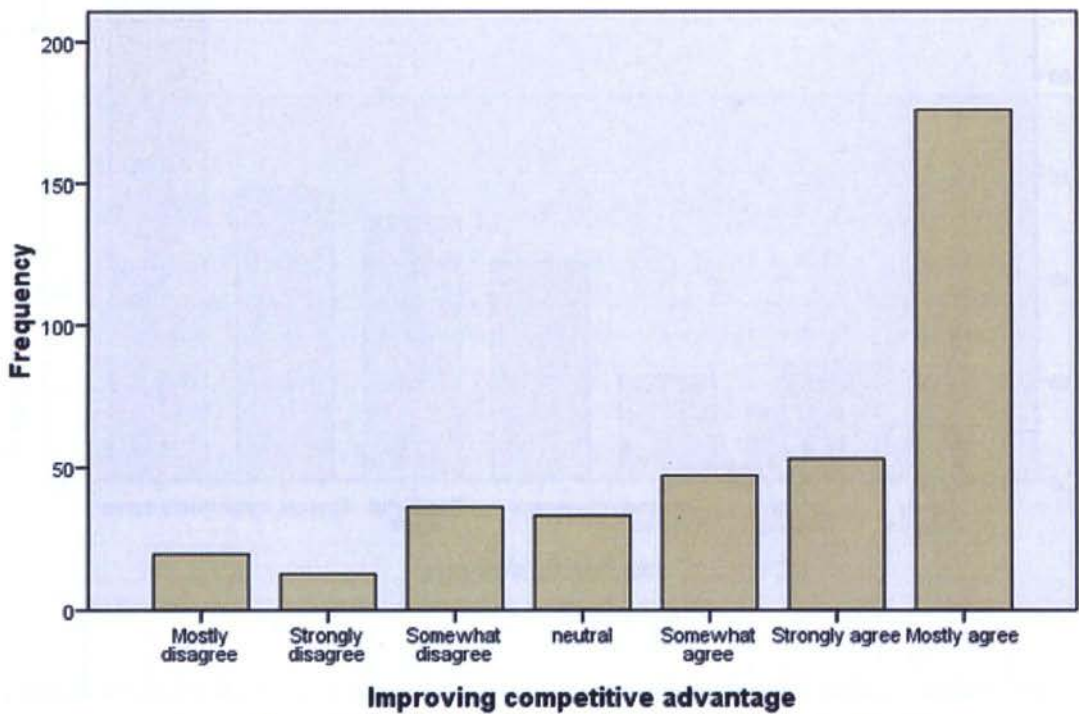


Figure 6.54: Improving Competitive Advantage

KM is one of those practices that contribute equally as change management and employee management does. It is the concept that involves the better performances and effective results by employees based on building their skills. In this research, the organisations studied belong to telecommunication where it is important for them to understand the effective employee development, which helps them to compete with their rivals. It means that quality management is linked to competitive advantage, which leads to effective KM. The successful dissemination of knowledge helps organisations to improve their competitive advantage. It helps in giving equal chance to employees to improve their skills by acquiring useful knowledge.

Improving Customer Focus

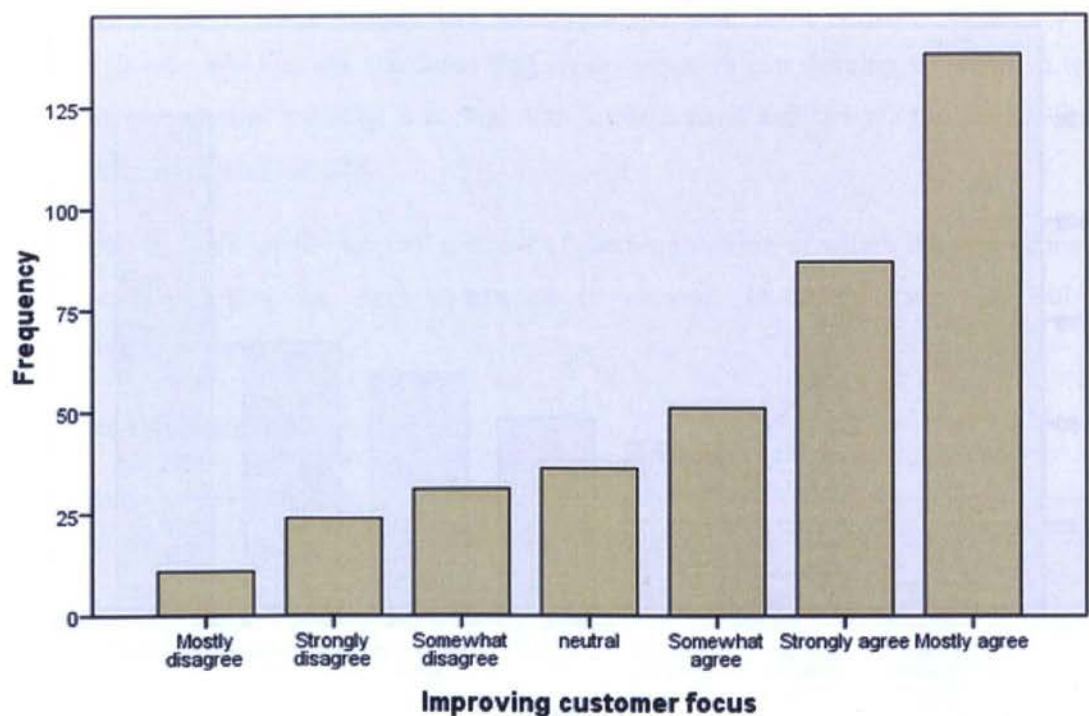


Figure 6.55: Customer Focus

For any organisation, the focus towards customers and gaining their satisfaction is important. Those organisations that have better focus towards their customers are able to perform well. Such organisations tend to spend more on their employees because they know that if employees are satisfied and perform well, then it gets relatively easier for them to develop their competitive advantage. Customer focus can be improved by adopting KM strategies. In this research, it is seen that these three organisations do not give considerable importance to KM. However, these organisations belongs to the telecom industry, which means that their focus towards KM strategies, processes and practices can help them to strengthen their competitive advantage and improving customer focus. For these organisations, customer satisfaction is important. It means that through effective KM implementation, organisation can utilise its innovative and technological capabilities, which can help them to perform well.

Innovation

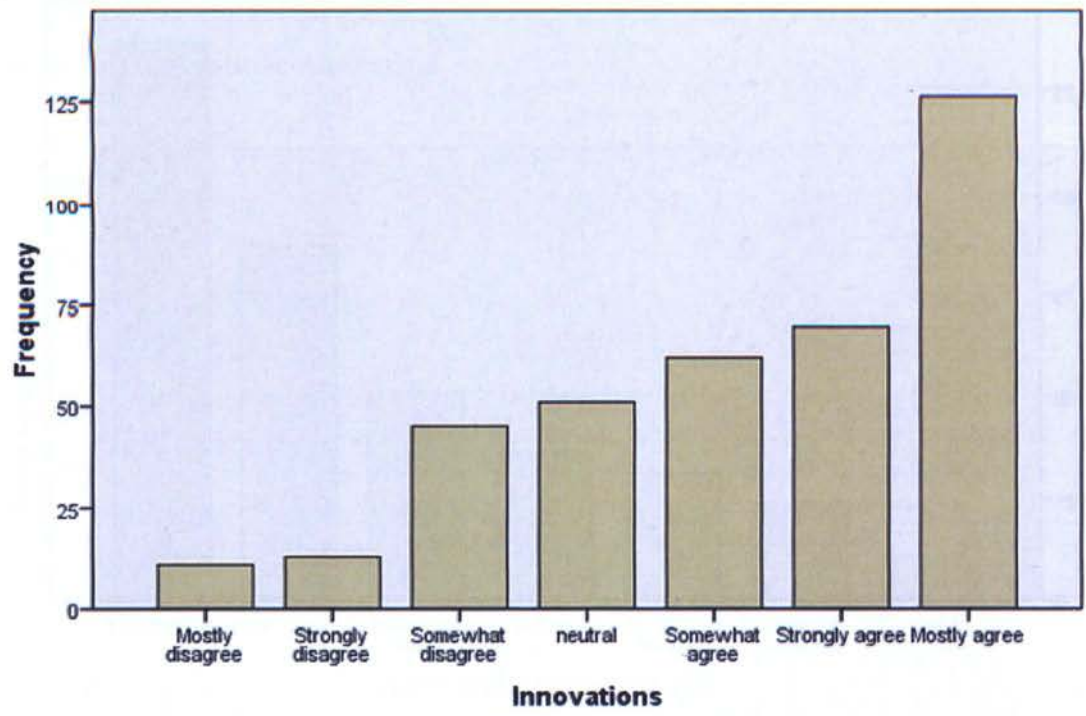


Figure 6.56: Innovations

When organisations start implementing and focusing on KM strategies, then it helps them to innovate easily because it provides them a vision to expand their scope and bring changes into their culture. Through KM, organisations can develop their internal system and improve their explicit knowledge. This knowledge supports technology, previous records, documents and rituals. Through innovation, zaen, mobaily and STC can improve their standards based on quality management and organisational performances. Innovation in knowledge management leads towards three broad areas, which include (Plessis, 2007):



Figure 6.57: Innovation (Plessis, 2007)

Technology – Through KM, organisation can bring in new information regarding technology, which can help them to identify what information best suits their system and can be used to make improvements.

Market – Innovation can be done by gathering knowledge of the market, which helps companies to know the potential they have that can help them to make better plans to compete. It also involves the standards that an organisation can develop competitive to the market. In the telecom industry, it is important to understand and analyse the market first in order to innovate based on KM.

Processes – It involves the internal process of the organisation in which the innovation can be implemented. KM can help companies to innovate based on their technical and administrative expertise.

Employee Development

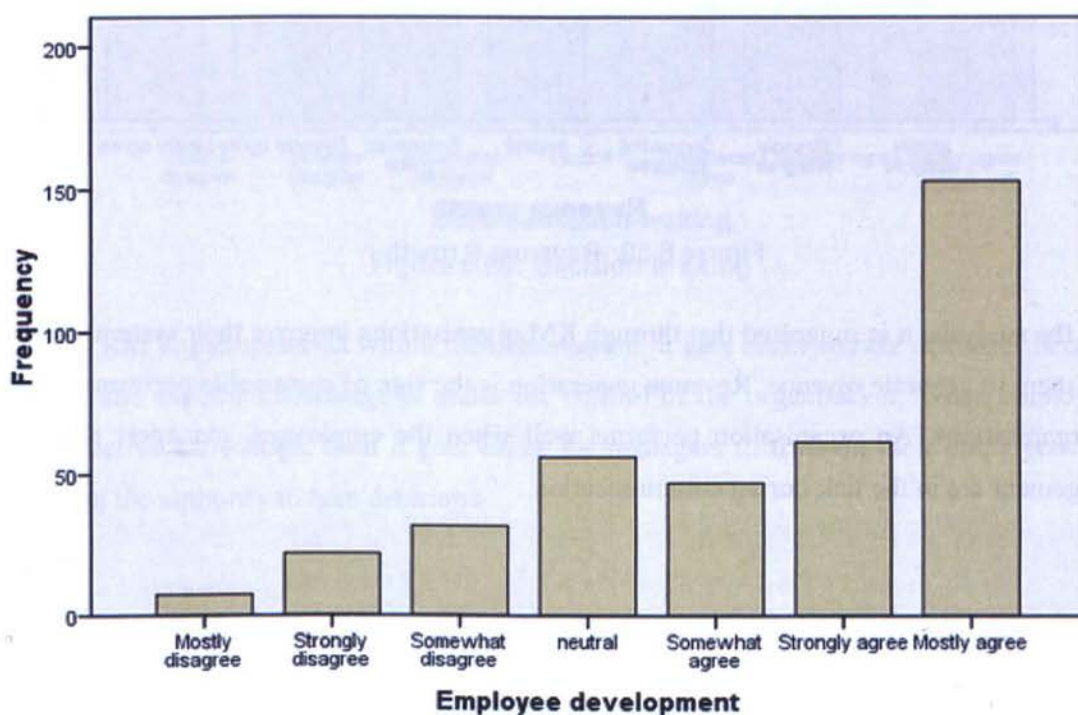


Figure 6.58: Employee Development

The biggest advantage of KM is that it helps in developing employee skills and brining improvement in their performances. These improvements not only help them, but also help organisations to increase their productivity. From the analysis, it is identified that employees do agree that KM helps organisations to enhance their performances through employee development. It not only develops problem-solving and analytical skills, but also develops technical, conflict management, communication and leadership skills in them.

Revenue Growth

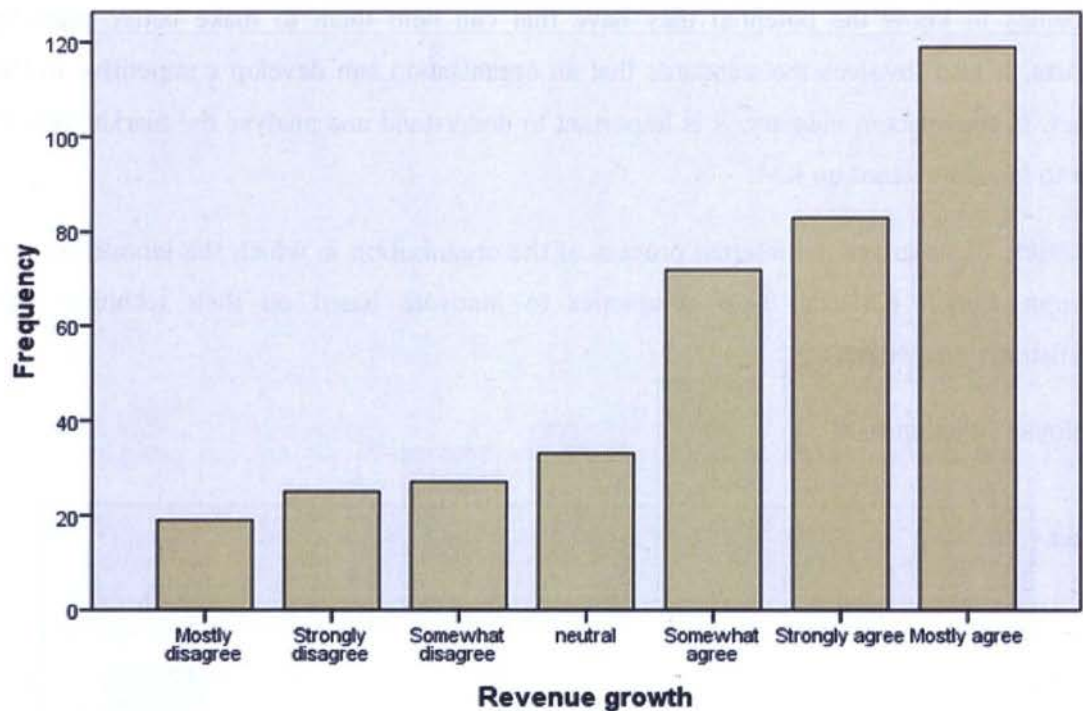


Figure 6.59: Revenue Growth

From the analysis, it is suggested that through KM organisations improve their system, which helps them to generate revenue. Revenue generation is the sign of sustainable performance of the organisations. An organisation performs well when the employees, managers and top management are in the link during communication.

Decision-making

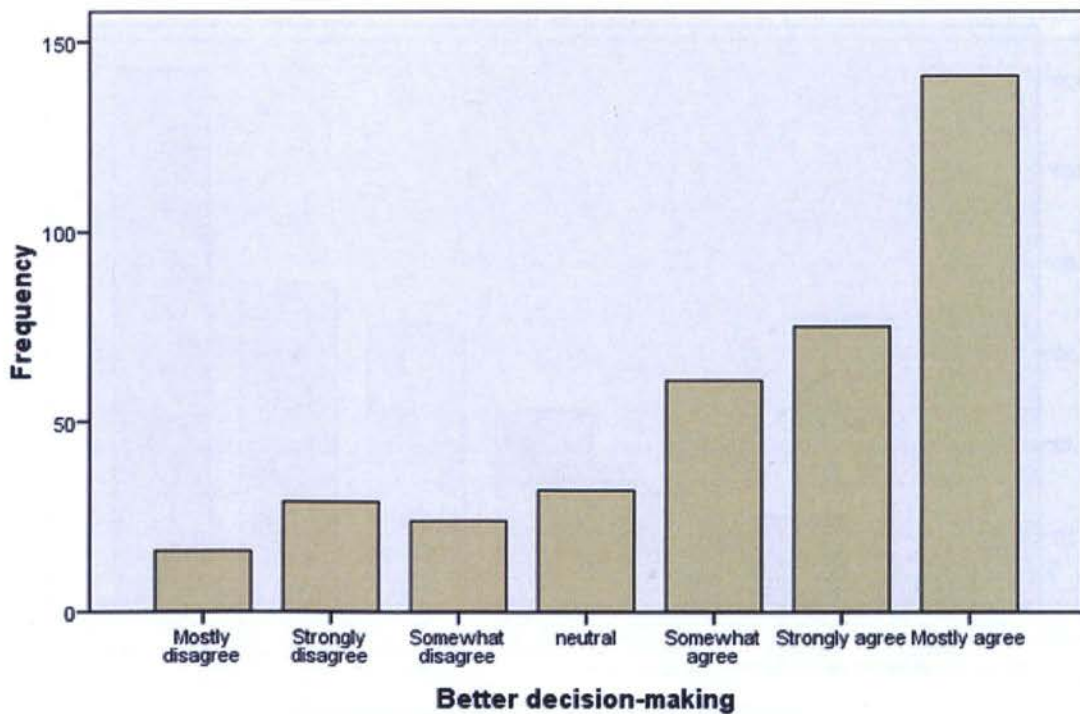


Figure 6.60: Decision Making

Through KM implementation within the organisation, it gets easier to take decisions because the tacit and explicit knowledge is under the control of the organisation. When employees have effective knowledge, then it gets easier for managers to trust on their employees and give them the authority to take decisions.

Intellectual Property Right Management

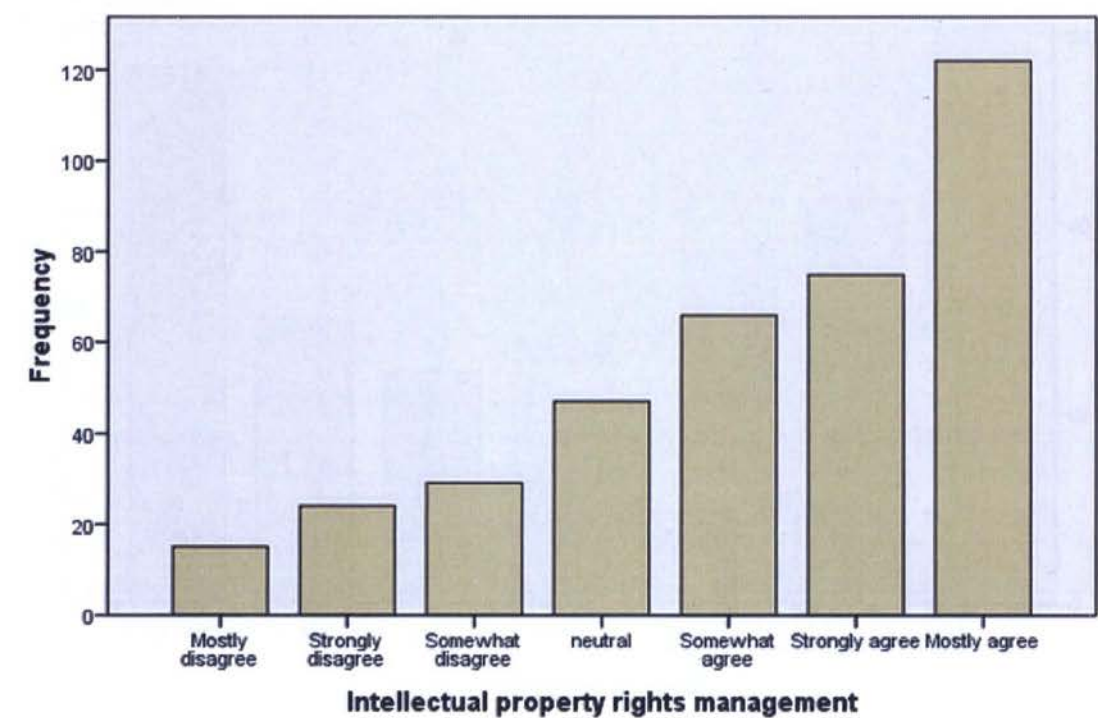


Figure 6.61: Intellectual Property

Intellectual property right management leads to improvements within the organisation based on KM. It expands the scope of the organisation to innovate and perform well.

Faster Response to Business Issues

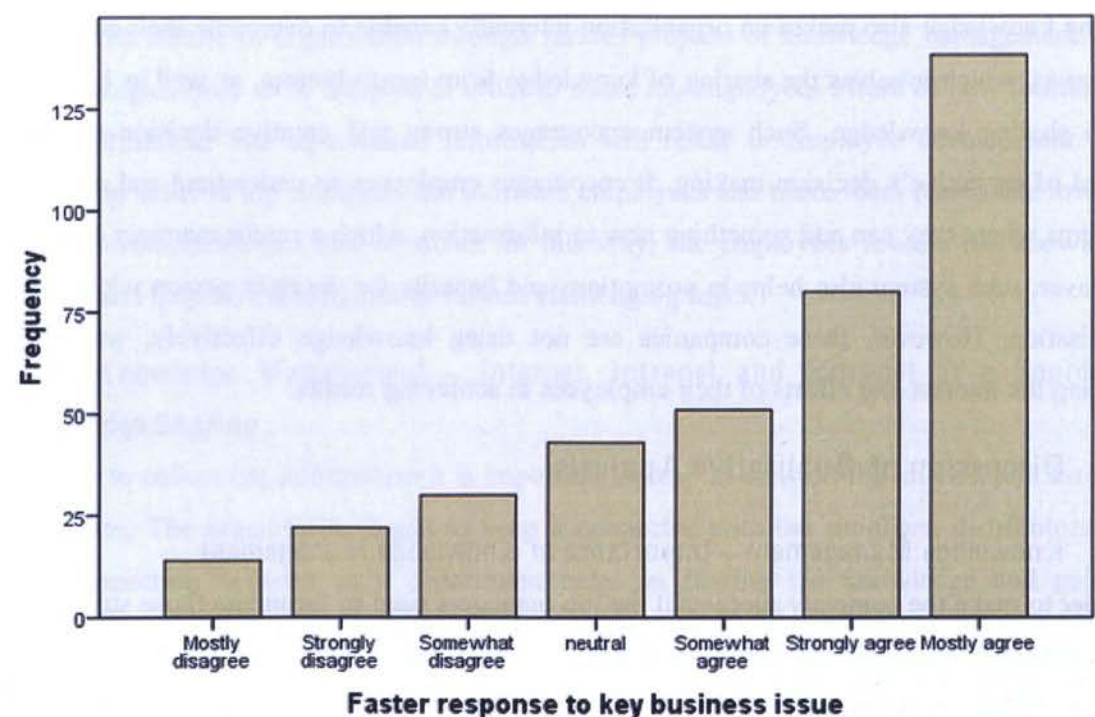


Figure 6.62: Response to Business Issue

Through effective KM skills and strategies, it is relatively easier for businesses to respond towards issues. This develops a confidence in employees to manage their skills and perform according to management’s demands. It helps management to overcome challenges and helps in maintaining their competitive advantage. Issues can easily be addressed by tracking old information, which helps in knowing that previously how organisation dealt with the problems. From the employee’s point of view, their companies do understand the KM practices can help them to solve their issues faster, but they fail to adopt such strategies.

6.3.3. Conclusion of Quantitative Analysis

The overall discussion of quantitative analysis shared the understanding on the factors that are involved in the implementation and weaker performances of KM in these companies. It is seen that when KM strategies are implemented within any organisation, then they are able to perform well because it gives them scope of working in broader spectrum by analysing and utilising their best resources. These resources are their human resources. If employees within the organisation are skilful and equipped with latest knowledge, then it is relatively easier for them to add more into their system. This also encourages employees to learn new techniques, which can help them to expand their scope and performances based on their results.

Moreover, through KM, it becomes relatively easier to share knowledge. However, these companies are not sharing knowledge and do not have proper means to share knowledge. Sharing knowledge also makes an organisation internally capable to overcome their conflicts and issues, which involves the sharing of knowledge from top-to-bottom, as well as bottom-to-top sharing knowledge. Such system encourages strong and creative decision-making instead of executive's decision-making. It encourages employees to understand and analyse problems where they can add something new to information, which a senior manager cannot. Moreover, such system also helps in promotions and benefits for the right person within the organisation. However, these companies are not using knowledge effectively, which is reducing the interest and efforts of their employees in achieving results.

6.4. Discussion of Qualitative Analysis

6.4.1. Knowledge Management – Importance of Knowledge Management

In order to make the company successful the top managers need to formulate those strategies that can help in managing the internal and external operation. The successful strategy results in the future sustainability and effective performance. The strong and effective communication between managers and employees boost the employee's attitude and behaviour towards the organisation. When the employees are satisfied and motivated then they perform outstandingly.

The managers need to treat the employees in an ethical way. The managers can provide leadership tools in order to share knowledge and enhance knowledge management activities. If the managers are not communicating with employees then it is difficult to formulate the right strategies and keep the employees on track. The managers need to adopt a proactive attitude in order to choose the right strategy at the right time. The trust among managers and employees is the most important factor in order to carry on knowledge management activities. Therefore, the managers can ask employees to work in a team and perform tasks. In this way, the team building activity will help employees in sharing various knowledge and they will learn new ideas.

The culture of an organisation needs to be flexible and informal. The informal culture will provide benefit to employees to move freely and perform their job. Moreover, when the managers are communicating with employees then the employees feel empowered. The recognition given to employees at work place makes them committed and loyal towards the

organisation. The managers need to satisfy employees to gain their trust and commitment. The commitment of employees will result in decreasing the turnover ratio. The managers can change the culture of organisation through various projects of knowledge management. The new strategies need to be adopted in order to make the employees aware of new technology and information. The up-to-dated information will result in employee development. The leadership skills in top managers can motivate employees and make them passionate towards career development and achievements. In this way, the employees reward the knowledge sharing and help their colleagues in various challenging tasks.

6.4.2. Knowledge Management – Internet, Intranet and Extranet as a Source of Knowledge Sharing

In order to collect the information it is important to keep in view all the internal and external operations. The organisation needs to keep it connected with the suppliers, distributors etc. The connection between each department helps in sharing the knowledge and gaining information. It also reduces the difficulty in work and the employees can recall or access data at any time. The managers need to consider each thing in mind, which is related to the organisation. The user-friendly interface will help employees in using it effectively. The managers need to integrate the current technology with knowledge management projects. The industrial and product life cycle will help in making the development process easily. The management can measure the employee's performance through KPIs because it will help in measuring the performance of employees at work place. In this way, it will help in long-term relationship with employees (Torun, 2009). The company can also incorporate the knowledge with the vision and mission of the organisation. It will help in keeping the organisation on the right path. Moreover, the clear strategies and vision will help in achieving the goals easily.

The team performance will also help in decision-making. The employees can make better decision when they are mutually concerned with each other. In team, the employees share innovative and creative idea, this results in better decision. Moreover, it also benefits those employees that are facing difficulty in performing their work. The cooperation given by colleagues helps weak employees and motivates them towards accomplishing their goals. In this way, the employees build trust and faith on each other and it helps in increasing the organisational performance (Mertins, Heisig and Vorbeck, 2003).

6.4.3. Knowledge Management – Structure of Organisation and Knowledge Management Activities

The effective structure of organisation will help managers in operating p [properly and enhancing employee performance. The organisational structures are usually formal or informal. The knowledge management activities are directly linked with the organisational culture and structure. The flow of knowledge is based on its structure. The culture of the organisation must be flexible and informal. In this way, the managers will easily understand the knowledge dynamics and recognise changes. The formal structure will separate the managers and employees and it will result in affecting the flow of knowledge. Therefore, the decentralised structure is the efficient structure for knowledge management activities. The informal structure will provide opportunity to employees to share their views and interactions with their colleagues.

The knowledge management help business in creating the value among competitors. It also provides benefits through training the employees and providing them job security. The basic objective of knowledge management is to save the time of employees and use the resources in an effective manner. The sharing and receiving knowledge with employees will help in building good relationships. The managers need to analyse the problem and access the knowledge management tools in order to develop the best solution for any problem. The proper implementation of the problem will result in accurate result. The managers can evaluate result to check if it is according to the need or not. In this way, the updated system will help in identifying the problems easily and timely. The implicit and explicit knowledge will help managers in making the decision and it will result in the proper knowledge acquisition (Montano, 2005).

The strategies such as intranet and extranet can be adopted in order to flow the knowledge inside the organisation. The proper flow of knowledge will help in utilising the IT capabilities. The organisation needs to hire information technology professional in order to design the most effective system. The knowledge management tools provide benefit to organisation to improve their quality and working abilities. This will also result in the successful growth and maximise the profit of the organisation. The positive knowledge sharing will create a positive effect on organisation and it will reduce the turnover ratio. The employees of the organisation will get loyal towards work and it will develop the employee's capabilities and skills for future betterment. The organisation can recognise the top and

talented employees through evaluating their progress. The rewarding system will help in empowering the employees and providing them job security (Sejdija, 2012).

6.4.4. Knowledge Management – Skills and Capabilities Required in Problem Solving

Problem solving is one of the day-to-day activities of employees within the organisations. It is their duty and responsibility to deal with problems and find better solutions that can help organisations to improve its performances. However, for effective problem solving, it is essential for employees to have desired and required capabilities. Such capabilities help them to solve problems quickly and motivate them to perform well. KM is one of the essential parts of the organisation, which requires strong control and rapid change management skills. An organisation can bring new knowledge only when they are able to accept change because the sharing of knowledge involves various dynamics, which means that with time the quality, nature, relevance and quantity of information can change. This means to bring that new knowledge within the organisation, it is important for employees to accept change and manage it effectively (Dutrenit, 2000).

Skills and capabilities to help employees to deal with problems and solve them by showing their accuracy in performances. It means that an employee who is well skilled and with prompt capabilities can deal with problems by finding new ways to resolve it. An effective employee is also the source of generating more profit for the organisation because their performances contribute more to organisational decision-making. Hence, to support his or her knowledge with strong sources and evidences, it is effective to bring knowledge management practices within the organisation. It can help employees overcome their weaknesses by knowing and finding out the effectiveness of knowledge. Sharing of knowledge also helps them to understand that how past employees and top management makes decisions, what trend does company follow, how companies compete with its rivals based on their knowledge, skills and capabilities and how knowledge can help a company to manage and strengthen its internal control (Dutrenit, 2000).

Strong skills and capabilities help an employee improve its position on job. It encourages them to contribute their share of knowledge with their supervisors and managers for decision-making or suggestion building. A company can also improve its knowledge management by sharing the information through vertical and horizontal channels of the organisation. It encourages strong coordination between these channels because generally, it is seen that there is little control and coordination within horizontal and vertical structure of the company.

Hence, to enable their proper integration, it is essential to share knowledge with every department of the organisation because through this, an organisation can bring new methods and techniques to deal with problem with proper collaboration and coordination (Dutrenit, 2000).

6.4.5. Control and Coordination within Employees and Managers through KM

Control and coordination are the prime focus of knowledge sharing because knowledge is shared in order to coordinate with others so that they can contribute their part in decision-making. A decision-making within the organisation is difficult because it requires the agreement of each authority and capable employee. Hence, when the knowledge is not shared with them through proper channel, then it creates a situation of conflict within the internal system. For internal system integration, it is important to enable effective coordination and cooperation between employees, managers and departments because the basic reason of implementing KM within the organisation is to improve the sharing of knowledge and finding their contribution as meaningful for problem solving (Perezgonzalez, 2005).

Employees who can easily coordinate with their managers can establish an effective position. It helps them to improve their listening skills and expands their learning outcome. Moreover, the coordination between employee and manager helps in seeking solutions to the problems quickly. It also helps them to coordinate with top management and makes their role visible within the organisation (Perezgonzalez, 2005).

Through KM, managers can evaluate the performances of employees. It helps them to know who the top scorer is and who is not. Moreover, it will also help them to improve their learning skills and experiences. It provides a way for the company to understand what specific training is important in order to develop strong skills within employees. It provides them a way to develop their competencies and performing well. Training helps them to not only enhance employee performances, but also help them to develop their career and trust on the organisation. The core idea to enable coordination in employees is to develop trust and commitment within employees to perform well. It helps them to cooperate with managers and bring innovative working practices. It also helps them to follow proper mechanisms and process to manage knowledge for problem solving (Perezgonzalez, 2005).

6.4.6. Effective Teamwork Performances through KM Abilities and Skills

Teamwork involves the communication and interpersonal skills development. It provides a way for employees to connect their selves with other employees, which leads to effective

work performance. Managing knowledge in teams can be relatively difficult, but once the knowledge is managed, then it is easier for them to perform well. In knowledge management abilities and skills, the first most important skills are of *conflict resolution* between team members (Stevens and Campion, 1994). These skills involve (Stevens and Campion, 1994):

- The knowledge management skills and abilities encourage the desirable conflicts within the team, but all undesirable conflicts are discouraged because it creates a situation of conflict for long term and may affect the results.
- The knowledge skills and abilities help teams to identify the intensity and the sources of any conflict, and help them to employee effective strategies of conflict resolution.
- The effective KM skills and abilities in team helps in employing a win-win situation where all the employees are happy and satisfied with the results and solutions they receive. It discourages win-lose situation, which is traditionally followed previously by these companies because the managers mentioned in the interview that previously, the organisation was following traditional system, but now new methods are introduced.

For teamwork, the second most important skill required is about *solving problems collaboratively*. It involves the following important aspects (Stevens and Campion, 1994):

- Through effective KM, teams can work in a participative style to solve problems instead of authority. It encourages teams to utilise their potentials in order to participate in decision-making and problem solving.
- Through KM abilities and skills, it is easier to understand the obstacles that team faces in collaborative problem solving and implementing active measures to deal with the problems.

The third most important aspect of KM skills and abilities in teamwork is *communication*. Effective and uninterrupted communication helps employees to perform well. It includes following aspects (Stevens and Campion, 1994):

- Through communication, it is important to understand the importance of decentralised controlling because it helps in enabling direct coordination with network members and strengthen the communication.

- KM skills and abilities help companies to communicate supportively and openly, which involves congruent, owned, event-oriented, conjunctive and validating communication.
- Effective skills of KM help an individual in the organisation to develop effective listening skills because it is seen that most of the conflicts occurs when one is unable to hear things effectively.
- KM skills and abilities promote verbal and nonverbal messages understanding. It means that through KM, one can understand how important communication is in solving problem and maintaining the harmony within the internal system.
- As, KM involves the preservation of knowledge, which means that for employees past records and performances of effective candidates can help them to know how they performed within the organisation. It is also one of the effective techniques to share knowledge and practices.

The last important aspect of KM is related to the self-management skills that an employee needs in order to improve their performance within the organisation. It involves the following aspects (Stevens and Campion, 1994):

- Performance management through KM as it is earlier discussed that it is very important. Through KM, an employee can manage their skills and set their goals accordingly. It provides them a path through which they can become successful. It helps them to evaluate their performances and provide feedback based on it.
- Self-management skills in employees through KM help them in coordinating and making plans related to the task. It involves the synchronisation of information and interdependency of each employee on another in a team. It also involves the help that each member is given to another member of the team in order to overcome their weaknesses for balancing their workload.

6.5. Conclusion

In concluding the discussion, it is analysed that knowledge management plays an essential role in the business success. It helps organisation in achieving the competitive edge and giving competition to other companies. The knowledge management activities also provide an opportunity to keep an eye on other competitor's performance. Moreover, the organisation can maximise its profit and gain market share through focusing on competitive strategies. The modern information technology system will help companies in staying connected with suppliers and other department through intranet and extranet facilities. The managers can also adopt various programs to keep the employees engage in work. The training and development program can be offered to employees, so that they can enhance their existing and future skills. The knowledge sharing among employees will make them proactive and it will help in accomplishing difficult task. The informal culture of the organisation will provide opportunity to employees to enhance their decision-making capabilities. The managers need to interact with employees in an effective manner. In this way, the managers will build strong relationship with employees and gain their commitment.

CHAPTER SEVEN: CONCLUSIONS AND IMPLICATIONS

7.1. Conclusions

This thesis has shown the importance of the BOKMISO framework. The integrated social ontology components adds value to the knowledge management within a business organisation. The first part of the framework development was to identify the major components of the framework from the literature survey. This framework was evaluated through case studies and the final BOKMISO^f was presented as shown in Figure 3.1 and the Social Ontology shown in table 3.1 The practices of business and organisational performances are based on various tools and techniques that combine to add value to the overall results. It provides a wide scope for management to understand what specific techniques they can use, which can help them to improve their abilities and strengths.

In current business practices, it has become essential to develop competitive advantage in working style and structure of the organisation because it provides motivation to internal staff to grow and expand their vision by achieving organisational objectives.

For organisations, each working procedure follows certain criteria, where it is important for them to adopt some practices. Similarly, to achieve strength and success, it is important for organisation to develop strong working rules, practices and methods to perform well. A management of the organisation should know what to perform, how to perform and who will be responsible if performances are not up to the mark. Based on this, some management practices are adopted that helps in improving overall organisational skills and development. These practices involve conflict management, stress management, employee management, task management, time management, team management, but among this, the only practice that supports all these management skills is of Knowledge Management. KM is one of those practices that share a wide scope of knowledge among employees and other organisational member in order to improve their efficiency and effectiveness. From the literature review of the research, it is identified that KM is not only the management practice, but also a set of complete information, which provides a vision to the organisation to understand how goals can be attained based on specific KM skills.

After extensive research and exposition of information, it is identified that KM plays an integral part in organisational management strategies and it is important to address the social aspects. It was previously seen that organisations used to work under controlled system where

information sharing was discouraged, but now, sharing of information and knowledge help organisations to develop their competitive advantage by enhancing skills of their employees. Sharing of knowledge leads to creative ways of problem solving and decision-making. It helps in linking executives with employees so that the goal of the organisation can be communicated easily and fluently. Understanding of the social aspects strengthens these issues further.

Knowledge sharing not only adds value to the organisational performances, but also improves the quality of information, implementation of rules and formulation of active quality measures, which provides help to individual's performances. It does not stand alone to improve organisational practices, but also contributes to the improvements and utilisation of IT system within the organisation.

In the literature, the concept of tacit and explicit knowledge was also discussed, which in conclusion proves that these types of knowledge provides benefit to the organisation and helps to improve the quality of information they have in order to deliver better and efficient results. It provides help to management to improve their conceptual skills, operational skills, systematic skills and empathy-based skills, which develop their concern towards organisational goals and objectives. Explicit knowledge help organisations to understand their performances based on evidences, verbal and non-verbal means. It involves meetings, reports, and documents, etc, which help employees to know how they can deal with the situation effectively, whereas tacit knowledge involves intangible information, which is gained from experiences of others. This altogether helps management to understand how the problem can be resolved by considering past records and experiences.

To prove the importance of KM and social issues in the organisation, 4 main hypotheses were generated. Each hypothesis shared strong link with KM and helped in understanding the intrinsic and extrinsic importance of knowledge within the organisation. Following are the details of the hypothesis:

- There will be a positive relationship between organisational culture, KM and social issues of the organisation.

This hypothesis shared the relationship of organisational culture with KM of the organisation. In this hypothesis, the formal and informal structure of knowledge is discussed. It was

identified from data collection that formal and informal ways of sharing information and communication creates a positive impact on organisational cultures, which means that KM improves when employees are ready to share information in either ways.

It further discussed the link of controlling within the culture and KM of the organisation. From the data analysis and results gathered, it was seen that when organisation tends to form a control on employees, then employees lose their focus and unable to perform well because they are in pressurising situation. Such situation creates a negative impact on KM of the organisation.

The third relationship that was formed in this hypothesis based on the sub-hypothesis was of authority. From data analysis and specifically interview, it was noted that when employees in the traditional working style were controlled and authority was on them, then they were not performing well. However, in new management style, employees are interested to perform well.

In the fourth sub-hypothesis, the relationship of open culture is discussed with its link to KM of the organisation. It is seen that in open culture, employees are able to perform well, but sometimes, open culture also gives freedom to employees, which they exploit. Hence, open culture needs to have some limitations. However, from data analysis, it is identified that open culture is unsupportive to the organisation's management.

The fifth sub-hypothesis discusses the sharing of information and its positive influences on organisational culture. From the data analysis, it is identified that information sharing should be the part of the organisation, but not all the information is relevant for employees. Hence, sharing of information needs to be filtered.

- There will be a positive relationship between organisational structure, KM and social issues of the organisation.

The second hypothesis discusses the link of organisational structure with KM of the organisation. In this hypothesis, the first sub-hypothesis discussed is the workflow within the organisation. It is seen that when workflow is continuous, then organisation is likely to perform well, but when the workflow is interrupted, then it gets difficult for employees to perform within certain circumstances.

The second sub-hypothesis is based on tacit knowledge and KM of the organisation. As it is discussed, earlier that tacit knowledge involves the experiences and overall supportiveness from those who have knowledge. However, in this research, the information shared by the respondent's exhibits that tacit knowledge is weak in these organisations and nobody share their experiences and suggestions to them.

The third sub-hypothesis is based on knowing the importance of explicit knowledge. As it is discussed earlier about explicit knowledge that sharing of information through documentation help employees to know how effectively they can perform well. However, in these organisations i.e. Zaen, Mobaily and STC, it was seen that management do not share explicit knowledge with employees, which reduces their scope and knowledge to deal with critical situation.

- There will be a positive relationship between KM strategies and KM of the organisation.

The hypothesis is linked to the KM strategies and KM of the organisation. In this hypothesis, the first sub-hypothesis is the codification of knowledge. It is seen that knowledge codification involves the proper ways of sharing knowledge. From the data analysis, it is identified that knowledge codification is supportive in these organisations.

The second sub-hypothesis defines the link of KM mechanisms and process with KM of the organisation. It is seen that respondents mentioned that KM process and mechanisms are unsupportive to the organisation.

The third sub-hypothesis is based on explicit knowledge and its link to the KM strategies. In this hypothesis, it is identified by respondents that explicit knowledge is the part of KM strategies, which supports the organisation to collect information and share it with employees.

The fourth sub-hypothesis involves the sharing of knowledge within KM strategies. In this, it was seen that knowledge sharing is important because it help organisations to share information and identify better solutions, which can help to boost the growth of the organisation. The respondents mentioned in the data analysis that their organisation share knowledge.

The fourth sub-hypothesis explains the link of KM strategies and IT in KM of the organisation. It in today's business practices plays a vital role in performing business

activities. It enables the organisation to acquire advance information, which provides benefits to employees and management. However, from the data analysis, it is seen that there is an ineffective use of IT in these organisations.

The fifth and last hypothesis discussed the relationship of KM with mentoring. From data analysis, it was seen that respondents agreed that there is project mentoring done by the organisation, which help employees to deliver effectively.

- There will be a positive relationship between KM tools and mechanisms and KM of the organisation KM and social issues .

The last hypothesis is based on KM tools and mechanisms, and its link to KM of the organisation. In this hypothesis, the first sub-hypothesis is linked to quality management. Knowledge is incomplete unless the quality is good. Hence, to share knowledge and utilise it, it is essential to use quality knowledge, which helps in providing better results.

The second sub-hypothesis is based on organisational improvements. In this hypothesis, it was discussed that KM tools and mechanisms helps in improving the organisational results. The data analysis revealed that tools and mechanisms do create a positive impact and forms a relationship between organisational improvements and KM of the organisations.

7.1.1. Findings Related to Research Questions

The findings related to questions summarised that what is achieved from the overall research and how these questions helped in collecting data and presenting it. The main themes generated for the research were organisational culture, collective identities within the organisation, KM strategies, tools and practices. Following is the analysis and conclusion on each question of the research:

7.1.1.1. Research Question 1

How do the issues of collective identities within organisations affect KM in organisations?

This research acknowledges that there are various issues related to collective identities within the organisation, which affects the KM in the organisation. These identities involve employees, managers, knowledge management practices, IT, culture, and workplace norms, values etc. These identities either promote KM within the organisation or affect the overall knowledge of the organisation. However, to resolve these issues, it is essential for the

management to understand the best practices they can adopt in order to avoid the hindrance in KM approaches towards the organisation.

The results revealed that in telecommunication industry in Gulf States, the sharing of knowledge involves various barriers in which availability of information and concern of management is at top of it. According to the data gathered, it is identified that employees are ready to perform well, but management is not providing them resources to improve their standards and performances. Hence, it is important for management to give priority to intrinsic and extrinsic information for better work and practices. Use of IT can provide an effective solution to telecom industry to share knowledge.

7.1.1.2. Research Question 2

How do social issues within organisations impact on KM in Saudi telecommunication organisations?

From the data analysis, it is seen that in Saudi telecommunication organisations, social issues creates a wide impact on them. It involves the authority and differences in the status, lack of coordination between top management and employees, strict control and weak provision of resources. These issues combine to affect KM implementation within the organisation. The data analysis also revealed that trust is one of the strong elements in Saudi society. The management trust on employees and employees need to trust on management. This reciprocal relationship often leads to some disagreements and dissatisfaction. Similar in the case of these companies where employees are working, but they are not satisfied with the training they receiving from the organisation. According to them, organisation is just fulfilling their responsibility to train employees, otherwise there is no proper training given to them, which helps them to improve their knowledge.

7.1.1.3. Research Question 3

How is KM reflected in the organisational context, structure and culture of Saudi telecommunication organisations?

In the data analysis, it was studied that the organisational culture plays a crucial role in the Saudi telecommunication organisation. The internal operation of business can only be operated through adopting an appropriate organisational culture. The managers can direct the employees towards work when they are providing them job satisfaction. The KM implementation is only possible when the organisational structure is informal and the

managers are coordinating with the employees in an ethical manner. The interacting between management and employees results in effective and strong decision-making power. Moreover, due to interaction with the employees share various creative ideas, which results in organisation successful.

The organisational culture can provide an opportunity for employees to grow further and enhance their career. The implementation of KM activities will make the employees proactive and they will keep themselves engaged towards work. Moreover, this will also reduce the turnover rate and employees will get loyal towards the organisation. The interaction between managers and employees will make employees motivated and they will share their views with top-managers. In this way, the employees believe themselves as an important asset of an organisation. In the analysis, it was identified that the participatory leadership style was more efficient than autocratic because employees wants to share ideas freely and carry on the KM activity.

7.1.1.4. Research Question 4

What are the specific social, and business organisational issues preventing the effective application of KM system in these areas?

The economic, social and technological barrier may influence on the effective implication of KM. In the analysis, it was studied that the telecommunication organisation are not adopting modern technologies that is resulting in poor business operations. Thus, in this way the organisations are not focused on implementation of KM system. However, the proper implementation of KM can provide an opportunity for business to grow further with unique qualities.

The technological barriers may result in low innovation in telecommunication industry. The organisation is not focussing on innovative technologies. The companies are more concern towards their traditional methods that is resulting in business ambiguity. Moreover, due to the family oriented background the female is not allowed to work. The inflation ratio also results in economic barrier. Moreover, the company is not focusing on investing in R&D due to the heavy investment amount. However, if the companies invest in R&D than they can easily adopt the KM activities that can help them in future business success.

7.2. Theoretical Implications

According to King et al., (2002), KM is one of the integral parts of the organisations strategy, which is discussed in earlier chapters. It is not only important, but relevant to the telecom industry as well because the companies within this industry are discovering their potential and aims to develop their competitive advantage through proper KM solutions. In current context of the organisations, KM is embedded in their practices and culture because if they were unable to understand the importance of knowledge, then they would not be able to perform well. Based on this, following are the theoretical implications:

Firstly, this research is based on understanding various types of knowledge, which include collaborative and cognitive model of knowledge. In this model, various knowledge types are mentioned; however, to narrow the focus of the study and making it precisely relevant for telecommunication industry of Gulf States, the type widely discussed and tested is tacit and explicit knowledge. These types helped in understanding that how one can utilise knowledge and implement in on their organisation. Moreover, it also suggested that applying tacit and explicit knowledge could help organisations to share experiences and training their employees based on their own organisational cultural norms and values instead of giving examples about others. Hence, to support this H₁ and H₂ were designed.

Secondly, the empirical support for the proposed research framework is based on the metaphor of triangulation in a mixed approach. The interviews, questionnaires were used in order to conduct the research. The mixed method approach was used in order to study the quantitative and qualitative data because this research is based on both primary and secondary methods. Moreover, this research also shows that it has potential to be generalised to nationwide general organisational study. The participants were approached ethically. Moreover, the collection of data was faithful and no data duplication was done. The participants were provided time in order to answer the questionnaire. The interview was based on simple and clear language.

Thirdly, the comprehensive research framework is empirically examined with the telecommunication industry in context of the Gulf region. The research findings and analysis provides the evidences, which support the validity and reliability of the research framework. The majority of elements and factors in the framework are able to show the implementation of KM in telecommunication industry. Therefore, it is claimed that this research is comprehensive research, which can be used further to investigate the determining factors.

Moreover, it will help in adopting various technological factors that will help in further innovation.

7.3. Practical Implications

The practical implications involve those propositions and suggestions, which can help the telecom industry to improve their KM skills and strategies. It provides a scope to companies to understand what improvements they can bring within their system, which can help them to become efficient and helps them in developing their competitive advantage. Integrating the social ontology to their KM provides a more in-depth understanding of their organisation. Following are the practical implications for this study:

Firstly, for telecommunication industry, it is important to set certain norms, which involves the effective utilisation and implementation of KM within their systems. If industry itself will understand the rising need of KM, then it would be relatively easier for companies to perform well. Moreover, it will also help them to compete with other related industries.

Secondly, as telecom industry contributes one of the major shares in GDP, hence; for this it is important to make reforms at governmental level for this industry. If government will understand the importance of this industry, then the investors will likely to invest more in it.

Thirdly, employees within the industry should be obligated to have strong knowledge based skills, which involves communication skills, self-management skills, stress management and other relevant skills. This will help the industry to induct effective candidates who can contribute through their effective skills.

Fourthly, the improvement in IT system will help in providing the up-dated system to employees. The employees will feel convenient in working and they can access the data anytime. The KM implementation will also make the employees proactive and the employees can easily record and access the data. Moreover, various systems such as ERP and MIS will help in sharing the knowledge within the organisation and with suppliers. The knowledge sharing will provide an opportunity to operate the business ethically.

Fifth, the explicit knowledge plays a crucial role in knowledge sharing. The explicit knowledge needs to be protected in order to save the personal data of an organisation. The protected knowledge will help the telecommunication industry in keeping their records secret. In this way, no one can copy it and gain the advantage. Moreover, the dealings in

telecommunication industry are extremely professional because it connects the industry around the world. Therefore, it is necessary to keep the protected knowledge.

Sixth, in the telecommunication industry the information sharing through electronic means are very common because the companies are connected with each other. Therefore, in this industry there is rapid sharing of knowledge through electronic means. The information shared through the internet will help in communicating with individuals at a distance and it will reduce the time and cost as well.

The teaching of KM at initial level will help an individual in adopting it in their professional career. Therefore, in order to keep the country growing then the government needs to focus on teaching KM through academic life of a student. This will make the student familiar with those tools that are necessary in knowledge sharing.

This BOKMISO is currently being used by the Saudi telecommunications company STC to establish a more effective knowledge management systems within the company and especially for more effective knowledge sharing.

7.4. Recommendations

Following are the recommendations that can be applied at company level. These recommendations can be followed by the company, which can help them to improve their performances and compete with their rivals within the industry. It includes:

- The management needs to adopt a participatory style in order to communicate with the employees in an effective way. This will make the employees motivated and they will become empowered towards their job. This will not only help in making the employees focus towards work but in telecommunication industry, it will help in dealing with the customers in an effective manner. Moreover, the managers can also ask employees to work in a team and perform their task. This will help in making the employees concerned towards other colleagues.
- The managers can also provide various training programs to employees. The training provided by an organisation helps in making the employees proactive and they build their career through various trainings. The managers can also offer workshops programs and seminars. This will result in knowledge sharing and employees will be

able to communicate their ideas. The KM implementation can be done through providing a training program in, which the managers can provide a brief detail about KM activities. This will make the employees understand the importance and need of KM in telecommunication industry. The success of other organisations can also be discussed in various seminars in order to empower the employees for effective organisational performance.

- The recruitment needs to be done according to the skills and abilities of employees. The managers need to hire those employees that are talented and proactive. Therefore, such employees will perform outstandingly and it will help in making the business successful. The managers can provide a complete job description to employees, so that they can hire the correct and relevant employees.
- The IT based technology needs to be adopted by the company in order to keep the organisation information up-to-dated. The effective tools such as ERP and MIS system will help in sharing the information in the organisation. Therefore, the employees can easily access and record the data without any trouble.
- Moreover, the culture of the organisation also depends on the implementation of KM. The formal culture may de-motivated the employees and the employees may reduce their performance towards the organisation, hence, the managers needs to be informal so that they can communicate with the employees and share the information.
- Applying the use of e-commerce can be one of the gateways to connect the company with the rest of the world. It is widely noticed that the world is getting connected by the means of internet; hence, based on this, it is effective to use e-commerce facilities, which can help companies to understand how effectively they can manage knowledge and most importantly, it involves effective sharing of skills.
- Amendments should be done in the structure of the organisation where designations should be assigned based on person's skills, experience and knowledge, not based on age and authority. This will help in connecting right person with the rest of the management, which enables the smooth flow of information.
- Company should make investments in improving the infrastructure and development if IT. Investment on infrastructure will provide a better scope to the business and motivates them to perform well. It will also help them to develop their competitive advantage.

- Organisations should address the social issues identified in the developed social ontology to add value to their KM and hence improve organisational behaviour.

7.5. Future Direction

The scope of the research can be expanded in near future. as, this research is based on wider sharing of information related to KM; hence, in future the focus could be towards specific variables and factors related to KM or the industry could be different. In future, the research can discuss the impact of tacit or explicit knowledge on telecom industry of the Gulf States. Moreover, it can also discuss the link of employee retention with KM there are various other factors that can be discussed in future, but it will require an in-depth analysis by researcher to understand and choose the right variable that can help in performing the research.

Moreover, this research can also discuss in context with the customer satisfaction. As, in the telecommunication industry the customer satisfaction plays an essential role. Therefore, the employees can only satisfy the customers when they are loyal towards the organisation. The managers need to adopt those practices through which they can empower the employees. The satisfied employees will result in effective service quality. If the employees are well trained then they deal with the customers in an ethical manner.

The research can also expand further in the research and development factors. This plays an important role in telecommunication industry because the success of an organisation is based on the effective business operations and offering. The focus on R&D will help in innovating new techniques and tool for success. Moreover, the customers of a company can also be approached in order to gather their views regarding the customer satisfaction. This research can also expand in team building and leadership tools. The team-building tool will help employees in keeping themselves engage in work. It will help in studying those strategies through which managers can enhance team-building programs. The strategies that are related to organisational culture and structure can also be discussed further. This will help in knowing that what hierarchy can be suitable for implementation of KM activities.

In future, further open-ended questionnaire could be used, which is discussion based. In such questionnaire, it is easier to understand the perspective of employees and managers towards KM practices and social ontology development. Moreover, secondary data can also be used, which is based on the research work of others. Such data will be helpful to understand the research issue based on empirical evidences from governmental reports, industry evaluation

reports and company yearly books. This altogether can provide a better scope to future researcher to understand what can be added more and needs to be eliminated.

The social ontology could be developed further and evolve over time. This will add a richer understanding of an organisation as the social dimensions will be included in managing the knowledge within an organisation more effectively.

7.6. Research Limitations

The research is limited to the telecommunication industry because in Gulf region it is one of the fastest growing industries. The reason that this industry was chosen is due to its nature and subject. The knowledge management was chosen in order to know those factors that are essential to organisational success and future stability. The knowledge management activities help organisation in operating the business effectively. Therefore, this research is limited to those factors that are related to knowledge management implications. The employee's views are also studied in this research in order to know the behaviour of employees towards the KM.

In the analysis, the variables that are related to the business operations are discussed. The IT system and organisational culture are also studied in this research. In the analysis, the views of participants show that the IT system is one of the effective tools in order to keep the organisation up-dated. Moreover, it also helps in intranet and extranet activities. The data collection of this research is limited to the questionnaire and interview. The employees are selected in order to gather the data regarding the knowledge management activities. The Gulf region was selected for this research due to the attitude and behaviour of employees in telecommunication industry. The qualitative and quantitative data were gathered in order to present the research and make it effective. The perception of employees was collected in order to know the status of Knowledge management activities in their organisation. The theoretical framework was based on triangulation and mixed methods.

The Social ontology that was developed in this thesis is the first of this kind and this can be developed further through more research and cases studies. Also the Social ontology had a hierarchy of categories of society, organisation, group and individual. It was not in the scope of this research to develop the social ontology for the society category, this can be done in future.

7.7. Understanding Business Organisation Knowledge Management Integrated with a Social Ontology.

In this research, various theories models and techniques were discussed in order to explore the knowledge management activities and social issues within an organisation. The literature and theoretical framework helped in understanding the dependent and independent variables. Moreover, the relationship between dependent and independent variables were also studied. One of the main factors in the implementation of BOKSIMO framework is the organisational culture. The culture of an organisation helps in monitoring its overall activities and employees. An effectively managed organisational culture provides an opportunity for business to direct the behaviour of employees towards work. BOKSIMOf also proposes that the strategies and leadership tools help in innovating new ideas. The team building strategy offer employees to work together and share the knowledge with each other. BOKSIMOf shows the link between knowledge management strategies and innovation. The social ontology aspects of the BOKSIMOf helps to develop better human resource management also helps in knowledge sharing activities. The effective strategies of human resource management can lead to better idea generation. Moreover, it also helps in recognising those resources that are available to utilise in future business development. The commercialisation helps in planning the business operations and selecting the proper structure. The BOKMISOf framework takes into consideration various Knowledge Management issues and variables found in a variety of KM framework found in literature. BOKMISOf is based on prioritising the strategies that are made by the management. The management ensures the effective organisational performance. Knowledge management not only helps in making the business successful but it also helps in understanding the weaknesses in business through aligning the practices of organisations with business goal and strategy. BOKMISOf also discussed that the assessment of organisational performance which helps in business development and it creates the business value among stakeholders. The BOKMISOf model was designed in order to determine the success and failure of the company. It was identified that the traditional “hard” management techniques is not efficient. It is more people oriented and it provides opportunity to share the information between the people within an organisation. BOKMISOf proposes that knowledge building helps people cooperate and helps them be more innovating and have more creative ideas. BOKMISOf knowledge management activities also help in capturing the customer’s knowledge and understanding their demand. In this way, the company can create products according to the customers’ expectations and satisfy their needs. This will

help the business in adopting new techniques and giving competitive challenges to other rivalries.

The BOKMISO of KM/OL (Knowledge Management/Organisational Learning) learning components was designed to create the link between the knowledge management and organisational learning. It combines the knowledge management activities with the learning of the organisation. In this way, it was recognised that the information sharing helps in making the employees learn new knowledge, tools and techniques. Moreover, the employees enhance their intellectual abilities. Moreover, the employees also share up-dated information within the organisation. In this way, it helps in increasing the knowledge of colleagues.

Integrating the social aspects into a knowledge management framework adds value in understanding the organisation from the point of view of an organisation belonging to a society and made up of groups and individuals.

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Appendix 1

Questionnaire

Business Organisation Knowledge Management Integrated Social Ontology
(BOKMISO) Framework for the Telecommunication Industry in Saudi

Dear participants,

I am a PhD researcher in knowledge management Kingston University London. As part of my research, I am conducting a research investigating ways in which knowledge management and social determinants impact the organizational management within the telecommunication industry in Saudi Arabia. I would highly appreciate your kind participation in this research by filling in this questionnaire. Ethically, you have the right to withdraw from this participation at any time. This questionnaire is intended to collect information concerning the adoption of knowledge management implementation in telecommunication industry in Saudi Arabia. Your responds are very important to the accuracy of the research. Please note that all responses will be kept confidentially, and will not be used for any purpose other than scientific research.

Thank you in advance for your appreciated help.

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QUESTIONNAIRE

Name of company

1. STC
2. Mobaily
3. Zaen

Please encircle the appropriate box wherever required.

Part 1: Initial Questions

1. What is the current status of Knowledge Management in your company?
 - a) Not in existence at all.
 - b) Nascent stage
 - c) Introduction stage.
 - d) Growth stage
2. Does your company recognize knowledge as a part of their asset base?
 - a) Yes
 - b) No
 - c) Can't say
3. What are the problems relevant to knowledge and knowledge management in your company?
 - a) Lack of knowledge and information
 - b) lack of knowledge management
 - c) Information overload
 - d) Loss of crucial knowledge due to a key employee leaving the organization
 - e) Lack of use of IT for the purpose of knowledge management

4. What does your company think of Knowledge Management (KM)?
- a) Never heard of it.
 - b) Something they are already doing but not under the same name.
 - c) It is just a management fad.
 - d) It is strategic part of their business.
 - e) Something that could be beneficial for the organization
 - f) Something that can bring long term competitive advantage to the company
5. What do you think of stored knowledge in your company?
- a) It's quite important, relevant and latest.
 - b) It's quite important, relevant but not updated regularly.
 - c) It's just trivial, a part of formalities and of no use.

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Part 2: Your Current Assessment

1 . Knowledge management in the company: strategy and sources of knowledge management

Question 1	Strongly disagree	Mostly disagree	Some-what disagree	Neither agree nor disagree	Some-what agree	Mostly agree	Strongl y agree
	1	2	3	4	5	6	7
Knowledge such as problem solving methods, and technical skills or know-how are well codified in our company							
Knowledge is codified and is shared in form of documents and manuals in our company							
Results of meetings and projects are documented in our company							
Knowledge can be easily accessed from proper manuals, and documents in our company							
Information technology such as internet and intranet are the source of knowledge sharing in our company							
Our company offers support through information technology support to facilitate collaborative							

work opportunities across time and space							
Our company facilitates communication amongst employees through information technology							
Search for and gaining access of necessary information and knowledge are facilitated through information technology							
Knowledge is systematically stored through information technology							
Simulations and predictions are performed through the use of information technology in our company							
Question 1 Cont...	Strongly disagree 1	Mostly disagree 2	Some-what disagree 3	Neither agree nor disagree 4	Some-what agree 5	Mostly agree 6	Strongly agree 7
Face to face meetings and discussion are amongst the key sources of knowledge acquiring and sharing							
Informal discussions and meetings also serve as the source of knowledge acquiring and sharing							
Mentoring is also a source of							

knowledge acquisition							
Company has practices, processes, and mechanisms for creating new knowledge from existing knowledge							
Company has practices, processes, and mechanisms for knowledge acquisition and sharing							
Company has practices, processes, and mechanisms for knowledge acquisition from competitors							
Company has practices, processes, and mechanisms to identify and upgrade best practices							
Company has practices, processes, and mechanisms to value and protect tacit knowledge of the individuals.							
Company make deliberate endeavours to communicate the importance of knowledge on all levels of the organization							
Company has practices, processes, and mechanisms to integrate different types and sources of knowledge							

2: Culture and knowledge management

Question 2	Strongly disagree 1	Mostly disagree 2	Some-what disagree 3	Neither agree nor disagree 4	Some-what agree 5	Mostly agree 6	Strongl y agree 7
Employees has a purpose to, and value knowledge management and sharing of best practices and knowledge							
Our company offers a supportive, encouraging, supportive, and open culture that facilitates knowledge management							
Employees believe that knowledge management and sharing of best practices is the job of each and every individual							
The prevailing belief is that knowledge management is the task that cannot be designated to particular employees and experts							
Individuals employees are encouraged to give their opinions on different matters and make autonomous decisions							
Employees are not forced to refer others for the purpose of reaching a decision							
Employees are not forced to							

consult their seniors to make decisions							
employees are free to make decisions without approval from their supervisors							
employees can contact with one another in both formal and informal ways							
our company encourage collaboration and cooperation amongst employees both through formal and informal ways							
Question 2 Cont...	Strongly disagree 1	Mostly disagree 2	Some-what disagree 3	Neither agree nor disagree 4	Some-what agree 5	Mostly agree 6	Strongly agree 7
employees including top management are helpful and supportive							
employees including top management can be easily access							
employees are willing to collaborate within and across teams and within and across departments							
employees seem satisfied with the ways and level of cooperation and collaboration							

Employees trust each other and are trustworthy.							
Employees show reciprocal faith in each other's ability							

3 Structure of the organization and knowledge management

Question 3	Strongly disagree 1	Mostly disagree 2	Some-what disagree 3	Neither agree nor disagree 4	Some-what agree 5	Mostly agree 6	Strongly agree 7
The company has explicit work rules and policies with a good degree of autonomy							
Employees are not supposed to follow the defined task procedures rather the focus on getting the work done instead of following rules							
The company does not rely on strict control and supervision of day-to-day activities							
The employees are not forced to strictly follow the organizational hierarchies rather they are free to take their own decisions							
The company do not focus on vertical integration and hierarchies							
The company believes in horizontal integration and emphasize less on hierarchies							

Employees have autonomy to do their work							
Employees opinion are values and they are encouraged to participate in decision-making							
Employees have the liberty to find solutions of issues from all the available channels and sources							

4. How significant is the role that effective KM can play in achieving the best result in terms of the following in your company?

Question 4	Strongly disagree	Mostly disagree	Some-what disagree	Neither agree nor disagree	Some-what agree	Mostly agree	Strongl y agree
	1	2	3	4	5	6	7
Improving competitive advantage							
Improving customer focus							
Innovations							
Employee development							
Cost reduction							
Revenue growth							
Better decision-making							
Intellectual property rights management							
Faster response to key business issue							
Improving quality							
Improving delivery							

Semi-Structured Interview

Part 3: Semi-structured questions for interviews. Please prepare your ideas ready for an interview, which will be conducted at your convenience.

1. What is the current status of Knowledge Management in your company?
2. Does your company recognize knowledge as a part of their asset base?
3. What does your company think of Knowledge Management (KM)?
4. What do you think of stored knowledge in your company?
5. What is the attitude of senior management in terms of KM?
6. Please describe the culture and employee habits within your company in relation with KM. Does it support KM?
7. Please describe the culture of your company. Does it support KM?
8. What are the key cultural and structural barriers in knowledge management in your company?
9. What are the different types of technologies used by the company?
10. What are the problems faced by your company in using IT for Knowledge Management?
11. Was there any training within the company, how often were these held?
12. What were the objectives of these training?
13. How issues are solved and what procedure is followed to solve these issues, and when network members are contacted and who contact them?
14. Do you see any issues of time, cost and motivation in sharing information or knowledge?
15. How decisions are made i.e. does everyone in the organization has right to offer opinion in case of strategic decisions? And what is the case while working in network?
16. Are employees' opinions valued?
17. In case of retiring employees, what are the mechanisms you apply so that organization do not face any issues?
18. What social issues do you think needs to be addressed by the organization?
19. Do you think that understanding of social issues within organizations would improve the effectiveness and efficiency of the organization and how?

Appendix Two

Interview Transcription

1- What is the current status of Knowledge Management in your company?

Only activate formalities

Without paying attention to the knowledge and the company did not realize the meaning of the importance of knowledge management as required.

2- Does your company recognize knowledge as a part of their asset base?

It is Present in the planning but did not do within the company and can say that it practiced by the personal without Unregulated.

3- What does your company think of Knowledge Management (KM)?

Found within the plans and programs prepared in the company but did not work as effective practical

4- What do you think of stored knowledge in your company?

Exists, but not utilized properly or Organizer While the existence of a great legacy of experience and a long history of the company

5- What is the attitude of senior management in terms of KM?

Knowledge management in the past with the old management of the company is very weak, but with the new administration is interesting and well directed towards activating the role of the knowledge management.

6- Please describe the culture and employee habits within your company in relation with KM. Does it support KM?

The new generation within the company can say that he understands and recognizes the role of knowledge but the staffs of the ancient have no wish to rely on the concept of knowledge and doesn't support.

7- Please describe the culture of your company. Does it support KM?

Existing culture is not supportive of knowledge management. But there is a directed across programs posed by the company to change culture in order to be a culture of support for knowledge management

8- What are the key cultural and structural barriers in knowledge management in your company?

Many barriers, for example, to keep the employee experience or knowledge acquired by the employee because, he believed that it kept Job security

9- What are the different types of technologies used by the company?

Electronic programs are used in the company in order to obtain information exchanged between staff

10- What are the problems faced by your company in using IT for Knowledge Management?

Incomplete and e-enabled programs within the company in the manner that enhance the role of knowledge management

11- Was there any training within the company, how often were these held?

Are there training centres and training programs but focus quantity, not quality

12- What were the objectives of these training?

Kind of formalities and not lead to the intended objectives in the strategic plan of the company

13- How issues are solved and what procedure is followed to solve these issues, and when network members are contacted and who contact them?

In an orderly and software to help solve problems e.g. system

Help Desk

14- Do you see any issues of time, cost and motivation in sharing information or knowledge?

15-How decisions are made i.e. does everyone in the organization has right to offer opinion in case of strategic decisions? And what is the case while working in network?

In the previous time and with the administration value was difficult to involve staff or take their views but. With the new administration became possible in some things where Create a forum for the exchange of views between employees and senior management in the company

16-Are employees' opinions valued?

Currently yes compared to the previous administration

17-In case of retiring employees, what are the mechanisms you apply so that organization do not face any issues?

No storage of information when the employee retires. Company to lose all know when he leaves

18-What social issues do you think needs to be addressed by the organization?

Psychological and financial problems and other family-related

19-Do you think that understanding of social issues within organizations would improve the effectiveness and efficiency of the organization and how?

Yes understand the company helps to solve problems and this is reflected positively on the job performance and employee satisfaction

إدارة تنظيم المعرفة في

إطار الوجود الاجتماعي لصناعة الاتصالات في دول الخليج العربي خصوصاً المملكة العربية السعودية.

أعزائي المشاركون،،،

أنا باحث لنيل درجة الدكتوراه في إدارة المعرفة بجامعة كنجستون في لندن. وكجزء من بحثي، حالياً، أنا بصدد إجراء طرق بحث استقصائية لدراسة تأثير إدارة المعرفة والمحددات الاجتماعية على الإدارة التنظيمية لصناعة الاتصالات في المملكة العربية السعودية. وسأكون ممتناً لكم على مشاركتكم في هذا البحث بتعبئة الاستبانة. ولك الحق في الانسحاب من هذه المشاركة في أي وقت. تهدف الاستبانة إلى تجميع المعلومات المتعلقة بتبني إدارة المعرفة لتنفيذ صناعة الاتصالات في المملكة العربية السعودية. إجاباتك ضرورية للغاية في دقة هذا البحث. أرجو الملاحظة بأن جميع الإجابات سيتعامل معها بسرية، ولن تستخدم لأي غرض آخر خلاف البحث العلمي.

نشكركم مقدماً على مساعدتكم القيمة.

الباحث

مناحي القحطاني

قسم نظم المعلومات

كلية العلوم الهندسية والحاسوبية

مدرسة نظم المعلومات الحاسوبية

كنجستون

البريد الإلكتروني: k0956438@kingston.ac.uk

الاستبانة

الشركة:

المنصب:

أرجو وضع دائرة حول الإجابة المناسبة حسب مقتضى الأمر.

الجزء الأول: الأسئلة الأولية:

1) ما هو الوضع الحالي لإدارة المعرفة في شركتكم؟

- (أ) لا وجود لها على الإطلاق.
(ب) في مرحلة وليدة.
(ج) في مرحلة البداية.
(د) في مرحلة التطور

2) هل تعترف شركتكم بالمعرفة كجزء من القاعدة الأساسية؟

- (أ) لا أستطيع الإجابة
(ب) لا
(ج) نعم

3) ما هي المشكلات المتعلقة بالمعرفة وإدارة المعرفة في شركتكم؟

(أ) قلة المعرفة والمعلومات.

(ب) الافتقار لإدارة المعرفة.

(ج) المعلومات الزائدة.

(د) فقدان المعرفة بسبب تسرب الموظفين من الشركة.

(هـ) قلة استخدام تقنية المعلومات لغرض إدارة المعرفة.

4) ما هو اعتقاد شركتكم بخصوص إدارة المعرفة؟

(أ) لم نسمع عنها مطلقاً.

(ب) تمارس إدارة المعرفة داخل الشركة ولكن تحت مسمى آخر.

(ج) إنها مجرد بدعة إدارية.

(د) إنها جزء إستراتيجي من عملها.

(هـ) إنها شيء يمكن أن يكون مفيداً للشركة.

5) ما هو اعتقادك عن المخزون المعرفي لشركتكم؟

(أ) ضروري للغاية، ذو صلة بنشاط الشركة وتحديث.

(ب) ضروري للغاية، ذو صلة بنشاط الشركة لكن لا يتم تحديثه بانتظام.

(ج) عديم الأهمية، جزء من الشكليات ولا فائدة منه.

الجزء الثاني: تقييمك الحالي

(1) إدارة المعرفة في الشركة: إستراتيجية ومصادر إدارة المعرفة:

السؤال (1)	اعترض بشدة 1	غالباً اعترض 2	اعترض إلى حد ما 3	لا أوافق ولا أختلف 4	أوافق إلى حد ما 5	غالباً ما أوافق 6	أوافق بشدة 7
المعرفة كطرق لحل المشكلات، ومهارات فنية أو معرفة كيفية دمجها جيداً في سياسات شركتنا.							
يتم تقنين المعرفة ومساهمتها في شكل مستندات وكتيبات في شركتنا.							
يتم توثيق الاجتماعات والمشاريع في شركتنا.							
يمكن الوصول للمعرفة بسهولة في شركتنا من الكتيبات الخاصة والمستندات.							
تقنية المعلومات مثل الإنترنت هي مصادر المعرفة المساهمة في شركتنا.							
تقدم شركتنا دعماً من خلال تقنية المعلومات لتسهيل فرص العمل المشترك في الزمان والمكان المحددين.							
تسهل شركتنا الاتصال فيما بين الموظفين من خلال تقنية المعلومات.							
يتم تسهيل البحث من أجل الحصول على المعلومات المهمة والمعرفة من خلال تقنية المعلومات.							
يتم تخزين المعرفة بشكل منهجي من خلال تقنية المعلومات.							
تتخذ التنبؤات في شركتنا من خلال استخدام تقنية المعلومات.							
اجتماعات المواجهة والمناقشة هي المصادر الرئيسية لاكتساب وتقاسم المعرفة.							
تعمل النقاشات غير الرسمية والاجتماعات كمصدر لاكتساب وتقاسم المعرفة.							
يعتبر التوجيه أحد مصادر اكتساب المعرفة.							
تمتلك الشركة ممارسات، طرق وآليات لخلق معرفة جديدة من المعرفة الموجودة.							
تمتلك الشركة ممارسات، طرق وآليات لاكتساب وتقاسم المعرفة.							
تمتلك الشركة ممارسات، طرق وآليات لاكتساب المعرفة من المنافسين.							
تمتلك الشركة ممارسات، طرق وآليات لتحديد وتطوير أفضل الأعمال.							
تمتلك الشركة ممارسات، طرق وآليات لتفعيل وحماية المعرفة الكامنة للأفراد.							
قامت الشركة بمساعٍ مدروسة لتوصيل أهمية المعرفة على جميع مستويات الشركة.							
تمتلك الشركة ممارسات، طرق وآليات لتوحيد النماذج والمصادر المختلفة للمعرفة.							

(2) الثقافة وإدارة المعرفة:

السؤال (2)	اعترض بشدة 1	غالباً اعترض 2	اعترض إلى حد ما 3	لا أوافق ولا أختلف 4	أوافق إلى حد ما 5	غالباً ما أوافق 6	أوافق بشدة 7
لدى الموظفين هدفاً لتعظيم إدارة المعرفة والمساهمة بأفضل الممارسات والمعرفة.							
تقدم شركتنا دعماً وتشجيعاً وثقافة مفتوحة لتسهيل إدارة المعرفة.							
يعتقد الموظفون أن إدارة المعرفة والمساهمة بأفضل الممارسات هو عمل كل فرد.							
الاعتقاد السائد هو أن إدارة المعرفة تعني المهمة التي لا يمكن تخصيصها لموظفين وخبراء محددين.							
يشجع الموظفون الأفراد على إبداء آراءهم في القضايا المختلفة واتخاذ القرارات المستقلة.							
لا يجبر الموظفون على الرجوع للآخرين لغرض الوصول للقرار.							
لا يجبر الموظفون على استشارة رؤسائهم لاتخاذ القرارات.							
الموظفون لهم مطلق الحرية في اتخاذ القرارات دون موافقة مشرفيهم.							
يمكن للموظفين الاتصال ببعضهم البعض بكل من الطرق الرسمية وغير الرسمية.							
تشجع شركتنا التعاون فيما بين الموظفين من خلال الطرق الرسمية وغير الرسمية.							
الموظفون بما فيهم الإدارة العليا مفيدون ومستعدون.							
يمكن الوصول بسهولة للموظفين بما فيهم الإدارة العليا.							
الموظفون على استعداد للتعاون مع بعضهم البعض وعبر فرق العمل ومن خلال الأقسام.							
يبدو الموظفون راضين عن طرق ومستوى التعاون والمشاركة.							
يثق الموظفون ببعضهم البعض كما أنهم جديرون بالثقة.							
أظهر الموظفون ثقة متبادلة في قدرات بعضهم البعض.							

(3) الهيكل التنظيمي لإدارة المعرفة:

السؤال (3)	اعترض بشدة 1	غالباً اعترض 2	اعترض إلى حد ما 3	لا أوافق ولا أختلف 4	أوافق إلى حد ما 5	غالباً ما أوافق 6	أوافق بشدة 7
تمتلك الشركة قوانين وسياسات عمل واضحة مصحوبة بدرجة جيدة من الاستقلالية.							
لا يعتقد أن الموظفين يتبعون إجراءات المهام المحددة بل التركيز على إنجاز العمل بدلاً من إتباع القوانين.							

							لا تعتمد الشركة على الانضباط الصارم والإشراف على الأنشطة اليومية.
							لا يجبر الموظفين على إتباع التسلسلات الهرمية على نحو صارم، بل لهم مطلق الحرية في اتخاذ قراراتهم.
							لا تركز الشركة على الدمج الراسي والتسلسلات الهرمية.
							تؤمن الشركة بالدمج الأفقي والتأكيد إلى حد ما على التسلسلات الهرمية.
							يتمتع الموظفون بكامل الاستقلالية في أداء عملهم.
							أراء الموظفين لها أهميتها ويشجعون على المشاركة في اتخاذ القرار.
							للموظفين الحرية في إيجاد حلول للمشكلات من جميع القنوات والمصادر المتاحة.

4) ما مدى أهمية الدور الذي يمكن أن تلعبه إدارة المعرفة في شركتكم في تحقيق أفضل النتائج فيما يتعلق بالآتي:

السؤال (4)	اعترض بشدة	غالباً اعترض 2	اعتراض إلى حد ما 3	لاوافق ولاأختلف 4	أوافق إلى حد ما 5	غالباً ما أوافق 6	أوافق بشدة 7
تحسين الميزة التنافسية							
تحسين تركيز العميل							
الابتكارات							
تطوير الموظف							
تخفيض التكلفة							
زيادة العائدات							
اتخاذ أفضل القرارات							
إدارة حقوق الملكية الفكرية							
الاستجابة العاجلة للقضايا العملية الرئيسية							
تحسين الجودة							
تحسين التوزيع							

الجزء الثالث: تفاصيل المقابلة: من فضلك هل بالإمكان إلقاء نظرة على هذه الأسئلة، أرجو تجهيز أفكارك للمقابلة في الوقت الذي يناسبك.

(1) إدارة المعرفة في الشركة: إستراتيجية ومصادر إدارة المعرفة

السؤال (1)	ماذا	لماذا	أين	متى	من	كيف	ملاحظات
المعرفة كطرق لحل المشكلات، ومهارات فنية أو معرفة كيفية مجها جيداً في سياسات شركتنا.							
يتم تقنين المعرفة ومساومتها في شكل مستندات وكتيبات في شركتنا.							
يتم توثيق الاجتماعات والمشاريع في شركتنا.							
يمكن الوصول للمعرفة بسهولة في شركتنا من الكتيبات الخاصة والمستندات.							
تقنية المعلومات مثل الإنترنت هي مصادر المعرفة المساهمة في شركتنا.							
تقدم شركتنا دعماً من خلال تقنية المعلومات لتسهيل فرص العمل المشترك في الزمان والمكان المحددين.							
تسهل شركتنا الاتصال فيما بين الموظفين من خلال تقنية المعلومات.							
يتم تسهيل البحث من أجل الحصول على المعلومات المهمة والمعرفة من خلال تقنية المعلومات.							
يتم تخزين المعرفة بشكل منهجي من خلال تقنية المعلومات.							
تتخذ التنبؤات في شركتنا من خلال استخدام تقنية المعلومات.							
اجتماعات المواجهة والمناقشة هي المصادر الرئيسية لاكتساب وتقاسم المعرفة.							
تعمل النقاشات غير الرسمية والاجتماعات كمصدر لاكتساب وتقاسم المعرفة.							
يعتبر التوجيه أحد مصادر اكتساب المعرفة.							
تمتلك الشركة ممارسات، طرق وآليات لخلق معرفة جديدة من المعرفة الموجودة.							
تمتلك الشركة ممارسات، طرق وآليات لاكتساب وتقاسم المعرفة.							
تمتلك الشركة ممارسات، طرق وآليات لاكتساب المعرفة من المنافسين.							
تمتلك الشركة ممارسات، طرق وآليات لتحديد وترقية أفضل الممارسات.							
تمتلك الشركة ممارسات، طرق وآليات لتعظيم وحماية المعرفة الكامنة للأفراد.							
قامت الشركة بمساع مدروسة لتوصيل أهمية المعرفة على جميع مستويات المنظمة.							
تمتلك الشركة ممارسات، طرق وآليات لتوحيد النماذج والمصادر المختلفة للمعرفة.							

(2) الثقافة وإدارة المعرفة:

السؤال (2)	ماذا	لماذا	أين	منى	من	كيف	ملاحظات
لدى الموظفين هدفاً لتعظيم إدارة المعرفة والمساهمة بأفضل الممارسات والمعرفة.							
تقدم شركتنا دعماً وتشجيعاً وثقافة مفتوحة لتسهيل إدارة المعرفة.							
يعتقد الموظفون أن إدارة المعرفة والمساهمة بأفضل الممارسات هو عمل كل فرد.							
الاعتقاد السائد هو أن إدارة المعرفة تعني المهمة التي لا يمكن تخصيصها لموظفين وخبراء محددين.							
يشجع الموظفون الأفراد على إبداء آرائهم في القضايا المختلفة واتخاذ القرارات المستقلة.							
لا يجبر الموظفون على تحويل الآخرين لغرض الوصول للقرار.							
لا يجبر الموظفون على الرجوع للآخرين لغرض الوصول للقرار.							
الموظفون لهم مطلق الحرية في اتخاذ القرارات دون موافقة مشرفيهم.							
يمكن للموظفين الاتصال ببعضهم البعض بكل من الطرق الرسمية وغير الرسمية.							
تشجع شركتنا التعاون فيما بين الموظفين من خلال الطرق الرسمية وغير الرسمية.							
الموظفون بما فيهم الإدارة العليا مفيدون ومساندون.							
يمكن الوصول بسهولة للموظفين بما فيهم الإدارة العليا.							
الموظفون على استعداد في التعاون مع بعضهم البعض وعبر فرق العمل ومن خلال الأقسام.							
يبدو الموظفون راضين عن طرق ومستوى التعاون والمشاركة.							
يثق الموظفون ببعضهم البعض كما أنهم جديرون بالثقة.							
أظهر الموظفون ثقة متبادلة في قرارات بعضهم البعض.							

(3) الهيكل التنظيمي لإدارة المعرفة:

السؤال (3)	ماذا؟	لماذا؟	أين؟	من؟	كيف؟	ملاحظات
تمتلك الشركة قوانين وسياسات عمل واضحة مصحوبة بدرجة جيدة من الاستقلالية.						
لا يعتقد أن الموظفين يتبعون إجراءات المهام المحددة بل التركيز على إنجاز العمل بدلاً من إتباع القوانين.						
لا تعتمد الشركة على الانضباط الصارم والإشراف على الأنشطة اليومية.						
لا يجبر الموظفين على إتباع التسلسلات الهرمية على نحو صارم، بل لهم مطلق الحرية في اتخاذ قراراتهم.						
لا تركز الشركة على الدمج الراسي والتسلسلات الهرمية.						
تؤمن الشركة بالدمج الأفقي والتأكيد إلى حد ما على التسلسلات الهرمية.						
يتمتع الموظفون بكامل الاستقلالية في أداء عملهم.						
أراء الموظفين لها أهميتها ويشجعون على المشاركة في اتخاذ القرار.						
للموظفين الحرية في إيجاد حلول للمشكلات من جميع القنوات والمصادر المتاحة.						

(4) ما مدى أهمية الدور الذي يمكن أن تلعبه إدارة المعرفة في شركتكم في تحقيق أفضل النتائج فيما يتعلق بالآتي:

السؤال (4)	ماذا؟	لماذا؟	أين؟	من؟	من؟	كيف؟	ملاحظات
تحسين الميزة التنافسية							
تحسين تركيز العمل							
الابتكارات							
تطوير الموظف							
تخفيض التكلفة							
زيادة العائدات							
اتخاذ أفضل القرارات							
إدارة حقوق الملكية الفكرية							
الاستجابة العاجلة للقضايا العملية الرئيسية							
تحسين الجودة							
تحسين التوزيع							

الجزء الرابع: أسئلة شبه مرتبة للمقابلة، أرجو تجهيز أفكارك للمقابلة، ما الذي سيجري في الوقت الذي يناسبك.

- (1) ما هو الوضع الحالي لإدارة المعرفة في شركتكم؟
- (2) هل تعترف شركتكم بإدارة المعرفة كجزء من القاعدة الأساسية؟
- (3) ما هو اعتقاد شركتكم بخصوص إدارة المعرفة؟
- (4) ما هو اعتقادك عن المخزون المعرفي لشركتكم؟
- (5) ما هو موقف الإدارة العليا بخصوص إدارة المعرفة؟
- (6) أرجو أن تصف ثقافة وعادات الموظفين في شركتكم فيما يتعلق بإدارة المعرفة. هل هي تدعم إدارة المعرفة؟
- (7) أرجو أن تصف ثقافة شركتكم. هل هي تدعم إدارة المعرفة؟
- (8) ما هي العقبات الثقافية والبنوية الرئيسية التي تواجه إدارة المعرفة في شركتكم؟
- (9) ماهي النماذج المختلفة للتقنيات المستخدمة في شركتكم؟
- (10) ماهي المشكلات التي تواجه شركتكم في استخدام تقنية المعلومات المتعلقة بإدارة المعرفة؟
- (11) هل هناك أي دورات تدريبية في شركتكم، وكيف يتم انعقادها في الغالب؟
- (12) ماهي أهداف هذه الدورات التدريبية؟
- (13) كيف يتم حل المشكلات وما هو الإجراء المتبع لحل هذه المشكلات، ومتى يتم الاتصال بأعضاء الشبكة ومن الذي يتصل بهم؟
- (14) هل ترى أي مشكلات متعلقة بالزمن، التكلفة تساهم في المعلومات أو المعرفة؟
- (15) كيف تتخذ القرارات، على سبيل المثال هل أي شخص في الشركة له الحق في تقديم رأي في حالة القرارات الاستراتيجية؟ وماذا عن الحالة عند العمل في الشبكة؟
- (16) هل تقدر آراء الموظفين؟
- (17) في حالة تقاعد الموظفين، ما هي الآليات التي تطبقها حتى لا تواجه الشركة أي مشكلات؟
- (18) ماهي المشكلات الاجتماعية التي تعتقد بأنها تحتاج للمعالجة من قبل الشركة؟
- (19) هل تعتقد أن فهم المشكلات الاجتماعية في الشركة سوف يحسن فعالية وكفاءة الشركة، وكيف؟